Assessment of Nurse's Knowledge Concerning Prevention of Surgical Site Infection in Baghdad Teaching Hospitals

تقييم معارف الممرضين حول منع خمج موضع العملية في مستشفيات بغداد التعليمية

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الخلاصة:

خلفية البحث: تُعرَّف التهابات الموقع الجراحي (SSIs) بأنها الالتهابات التي تحدث في غضون ٣٠ يومًا من العملية أو خلال عام واحد إذا تركت عملية زرع في مكانها بعد العملية ، يلعب التمريضين دورًا رئيسيًا في الوقاية من عدوى الجرح بعد العملية الجراحية عن طريق الإعداد المناسب للمريض قبل الجراحة وتطبيق تقنية التعقيم لمنع التلوث عن طريق البكتيريا من جميع المصادر أثناء الضماد ، العملية وخلال عملية الشفاء. لهذا السبب ، أجرى الباحث هذه الدراسة من أجل تقييم معارف التمريضين فيما يتعلق بالوقاية من عدوى الموقع الجراحي.

الأهداف: الهدف الرئيسي من الدراسة هو تقييم احتياجات الممرضين فيما يتعلق بالوقاية من عدوى الموقع الجراحي وتوفير جودة رعاية ، من المهم جدًا أن يكون لدى الممرضين معرفة جيدة أتجاه الوقاية من SSI.

المنهجية: أجريت الدراسة من ٣ إلى ١٠ / كانون الثاني / ٢٠١٩ على ممرضين يعملون في قسم الجراحة في مستشفى بغداد التعليمي ومستشفى الكندي التعليمي ومستشفى الامام علي التعليمي لتقييم معارف الممرضين بشأن الوقاية من عدوى الموقع الجراحي في مستشفيات بغداد التعليمية.

النتائج: تم استخدام الإحصائيات الوصفية واختبار ارتباط بيرسون لتحليل البيانات باستخدام SPSS. أوضحت نتائج الدراسة أن متوسط معارف الممرضين المشاركين كان (منخفض).

الاستنتاج: أظهرت نتائج الدراسة الحالية أن جنس الممرضين العاملين في قسم الجراحة كان متساويا بين الذكور والإناث ، وكان عمرهم بين (٢٠-٢٩) سنة ومعظمهم من خريجي مدرسة التمريض الثانوية ، ومعظمهم متزوجون ، وخبرتهم في قسم الجراحة بين (١-٥) سنوات ومعظمهم لم يشاركوا في الدورات التدريبية وضعف المعارف فيما يتعلق بالوقاية من عدوى موقع الجراحة.

التوصيات: أوصت الدراسة بتنفيذ البرنامج التعليمي حول الوقاية من عدوى موقع الجراحة لجميع الممرضين العاملين في قسم الجراحة.

الكلمات المفتاحية: فاعلية البرنامج التعليمي، معرفة، ممارسات، عدوى الموقع الجراحي.

ABSTRACT:

Background: Surgical site infections (SSIs) are defined as infections that occurs within 30 days of the operation or within one year if an implant is left in place after the procedure, Nurses play central role in the prevention of postoperative wound infection by Proper preparation of the patient before surgery and the application of aseptic technique to prevent contamination via bacteria from all sources during dressing, operation and throughout the healing process. For this reason, the researcher has conducted this study in order to evaluate Nurse's Knowledge Concerning Prevention of Surgical Site Infection.

Aims of the study: The main aim of the study is to asses nurses Needs Concerning Prevention of Surgical Site Infection and to provide quality of care, it is very important for nurses to have good knowledge towards prevention of SSI.

Methodology: the study was carried out from January 3th to 10st, 2019on nurses working in surgical word at Baghdad Teaching Hospital, Al-kindy Teaching Hospital and Al-imam Ali Teaching Hospital to assess the Nurses' Knowledge concerning Prevention of Surgical Site Infection in Bagdad Teaching Hospitals.

Results: Descriptive statistics and the Pearson correlation test were used to analyze data using SPSS. The study results indicated that the mean of nurses' knowledge of the participants was (low).

Conclusion: The Findings of current study demonstrated. The gender of nurses working at surgical ward was equal between males and female, their age between (20-29) years and most of them were graduate of nursing secondary school, most of them were married, their experience in the surgical ward between (1-5) years and most of them did not participate in training courses and poor knowledge regarding prevention of surgical site infection.

Recommendations: The study recommends that Implementation of the educational program about prevention of surgical site infection for all nurses working in surgical ward.

Keywords: Effectiveness, educational Program, Knowledge, Practices, Surgical Site Infection.

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INTRODUCTION

Surgical site infection (SSI) is one type of nosocomial infection in which a surgical infection happen after invasive procedures [(1)]. Nosocomial infection (NI), or hospital-acquired infection (HAIs), or Health-care-associated infection (HCAI) refers to infection that is acquired during the process of care and not manifested at the time of admission to a hospital or other health-care [(2)].

Hospital acquired infections (HAIs) is a major safety concern for both health care providers and the patients. Considering morbidity, mortality, increased length of stay and the cost, efforts should be made to make the hospitals as safe as possible by preventing such infections [(3)]. Surgical site infections are the second most common healthcare-associated infection. The CDC and the National Nosocomial Infection System have established criteria for defining SSIs that are widely used by SSI surveillance and perioperative personnel [(4)].

Surgical wound infection accounting 20% to 25% of all Nosocomial infection (NI) worldwide and that 2-5% of all patients who undergo surgical interference will develop a surgical site infection and patients who suffer surgical site infection are twice as chance to die as other postoperative patients [(5)]. Surgical infection may range in exceptional countries. Evolved international locations, such as united states of America, UK, and Sweden' occurrence charge degrees from 2% to six. 4%. In developing international locations like Pakistan, India, Turkey incidence price of SSI is better starting from five.5 % to 25% [(6)].

Many people in developing countries die every day because of the inadequate health care services of which postoperative, infection account for a large proportion of this burden. It has been reported that SSI affects 5% to 15% of hospitalized patients in regular wards and up to 50% or more of patients in intensive care units (ICUs), while the magnitude of the problem in developing countries remains largely underestimated [(7)].

Healthcare related infection a common to surgical patients, and their prevention is referred to as a key of care first-rate and affected person safety. Patient safety is vital concern for all health care professionals. All of unit concerned in patient care however, nurses play a number one role. So, it's a vital challenge for nurses to supply quality of medical care to their clients [(8)]. Application of current information and practices by nurses will facilitate stop surgical site infection, reduces patients' and hospitals expenses and improves patients' quality of life [(9)]. The prevention of SSI is the result of a complex interaction between patient-related factors, environmental factors, and nurse related factors [(10)].

AIMS OF THE STUDY:

1. Asses nurses Needs Concerning Prevention of Surgical Site Infection.
2. Determine the Relationship between Some Demographic Variable Such as (Age, Gender, Level of Education, and Years of Experience) and Nurse's Knowledge.

METHODOLOGY

The assessment was done on (40) sample of nurses who work in Al-kindy Teaching Hospital, Al-imam Ali Teaching Hospital and Baghdad Teaching Hospital during the period from January 3th to 10st, 2019. The knowledge questionnaire to assess nurses' needs was composed of (20) questions of Prevention of Surgical Site Infection. The question is based on review of related literature. The questionnaire consists of a self-administered paper on the demographic characteristics of the participants. This part is concerned with the collection of basic some socio-demographic data, and filled by the participants (gender, age, level of education, years of experience in nursing, years of experience in surgical word, Training courses). And Self-administered knowledge questionnaire concerning Prevention of Surgical Site Infection to assess nurses' knowledge, it's composed of (20) question multiple choice. The investigator who instructed the respondents carefully before the completion of the questions, every nurse was given a 30 min. to response for knowledge questions. The findings of assessment indicated that the nurses had a poor knowledge. Therefore, the assessment revealed that it is essential to create an educational program about Prevention of Surgical Site Infection.

RESULTS:

Table (1): Distribution of the Sample by their General Information

Variable		No.	%
Gender	Female	20	50
	Male	20	50
	Total	**40**	**100**
Age by years	20-29	19	47.5
	30-39	10	25
	40-49	6	15
	50 AND MORE	5	12.5
	Total	**40**	**100**
Level of education	Secondary Nursing School Graduate	21	52.5
	Nursing Institute Graduate	12	30.0
	Nursing College Graduate	7	17.5
	Total	**40**	**100**
Marital status	Married	25	62.5
	Single	13	32. 5
	divorced	2	5
	Total	**40**	**100**
Years of service in surgery units in particular	1-5	22	55
	6-10	7	17. 5
	11-15	5	12. 5
	16-20	6	15
	Total	**40**	**100**
Participation Training Sessions	Yes	-	-
	No	40	100
	Total	**40**	**100**

No. = number, %= percentage.

Table 1 shows that gender of the Sample was equal between male and female, The highest percentage of age were 47.5 % for age group between (20-29) years. More than half of the sample 52.5 % were secondary nursing school graduated majority of the sample 62.5 %were married In regards to years of service in the surgical units about 55 % of the sample have 1-5 years services, while no one of the sample have been participated in any training session related to infection control.

Table (2): Assessment of Nurses Knowledge toward Prevention of Surgical Site Infection by mean score

No.	Nurses Knowledge	No (F)	yes (F)	The total percentage of the wrong answer	M.S	Sig
1	**The best material used to shower the patient before the operation.**	34	6	85	1.15	L
2	**The best time to remove hair from the operation site.**	24	16	60	1.40	L
3	**What the best way to shave hair from the surgical site.**	18	22	45	1.55	M
4	**What The best time to a**	16	24	40	1.60	M

	administer prophylaxis antibiotic to surgical patients					
5	**The initial preparation of the surgical site includes**	24	16	60	1.40	L
6	**The space required to sterilize the area around the operation site is estimated**	26	14	65	1.35	L
7	**Solution that is not used to prepare the skin before surgery**	28	12	70	1.30	L
8	**Tools that are used for dressing are placed in**	22	18	55	1.45	L
9	**Preparing the patient for dressing is done through**	26	14	65	1.35	L
10	**Before performing the dressing, the nurse should do the following**	30	10	75	1.25	L
11	**Before dressing, the patient's unit must be cleaned during**	22	18	55	1.45	L
12	**The best way to reduce the spread of wound infection**	28	12	70	1.30	L
13	**The most forgotten or neglected areas during hand washing**	36	4	90	1.10	L
14	**The solution used in the dressing is chosen according to**	38	2	95	1.05	L
15	**When cleaning the surgical wound the top of the forceps should be**	32	8	80	1.20	L
16	**When cleaning the wound, separate swabs are used to help**	28	12	70	1.30	L
17	**Wounds that need curettage are those of color**	36	4	90	1.10	L
18	**the benefit of dressing wounds are**	22	18	55	1.45	L
19	**A sign indicating an occurrence the SSI**	28	12	70	1.30	L
20	**discharge red Secretions from wound Sign on**	36	4	90	1.10	L
				69.25	1.30	

Less than 1.5 low, 1.5 -2 Moderate, more than 2.1 High

Table 2 shows that nurse's response to the knowledge items, nurses had a low level the total mean of incorrect answers was (1.30) and the total frequency of incorrect answers was (69.25).

DISCUSSION:

- **Part I:** Discussion of the Study Sample by their Demographic Data

According to the findings of the present study in table (1), the study gender males and females were equal. This may be due to social development and allowing women to complete their studies and work together with men. It is half of society. For age groups most of nurses at age group between (20-29) years. In regard to the level of education, the highest percentage of the sample was graduating of secondary nursing school. About nurses marital status and years of experience, the study shows that maximum of nurses were married, the study shows that maximum of nurses were married most of nurses were married and had (1-5) years of service in surgical units. The result of training sessions shows that none of the nurses were participate in training sessions related to Prevention of Surgical Site Infection.

According to the above results, the researcher sees a direct relationship between age and years of service, the number of participation sessions, and the nurses' knowledge.

- **Part II:** Discussion of Nurses Knowledge toward Prevention Of Surgical Site Infection

Nurse is playing a crucial part in executing or promoting implementation of evidence-based practices. Also, they provide guidance and instruction during the initial preoperative visit, particularly with regard to quitting smoking and glucose control in diabetics. Encourage patients to report a new skin rash and breaks in the safety of the skin and new infections in the respiratory tract prior to surgery. In addition, they continue to play a pivotal role in promoting and implementing SSI prevention strategies while bringing the best available evidence to the bedside **(11)**.

Regarding to the response to the knowledge items of the Prevention of Surgical Site Infection, the findings indicate that the nurses had low level of knowledge. The results of the current study showed weak knowledge, which indicates the urgent need for education and awareness programs to improve the knowledge and nurses regarding the prevention of surgical site infection.

CONCLUSION

Health care professionals in the current study have poor Level of knowledge regarding of prevention surgical site infection. It is necessary to update knowledge to improve knowledge for them through continuing in-service educational programs.

RECOMMENDATIONS:

1. Nurses working in surgical ward should be involved in training courses to improve Knowledge bout prevention of surgical site infection.
2. A nursing educational program needs to be prepared in the establishment of courses and workshops for nurses about post-surgical nursing interventions.
3. Providing enough number of nurses to work in surgical ward, in order to provide good nursing care to patients.
4. Follow-up and evaluation of the nurses' intervention toward patients in the surgical ward and find the obstacles and work to solve them.

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