

NURSE'S KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF SURGICAL SITE INFECTION AT ALLIED HOSPITAL FAISALABAD

¹Sadia Sadaf, ²MS. Shafqat Inayat, ³M. Afzal, ⁴Muhammad Hussain,

¹Student of BSN (Post RN), ²Pincipal of Nursing Department, Independent College (FSD),

³Associate Professor of Nursing Department University of Lahore, ⁴Assistant Professor of Nursing Department University of Lahore

Corresponding author email: sadiasadafmalik@gmail.com Cell: +923217710989

ABSTRACT:

Surgical site infection is one of the second most common healthcare-associated infection (DeShields, 2005; Diaz & Newman, 2015). It is an infection that occurs within 30 days after an operation causes redness, fever, pain and swelling. It is also one of the most imperative complications of a surgical intervention (Famakinwa, Bello, Oyeniran, Okhiah, & Nwadike, 2014). According to Centers for Disease Control and Prevention (CDC) about 500,000 surgical site infections occur annually and account for 3% of surgical mortality, prolonged lengths of hospital stay, and increased medical costs (Diaz & Newman, 2015).

To assess nurses knowledge and practice of nurses regarding surgical site infection at Allied hospital Faisalabad.

Study design of this study descriptive cross sectional was used and 111 participants were participate in this study from Allied hospital Faisalabad, through convenient sample method and all of the participants were female nurses.

Answers from the participant clearly predicted low level of knowledge and practice toward surgical site infection.

The study revealed that nurses reported a low level of knowledge and practice regarding the prevention of surgical site infection. There was a strong, significant positive correlation between knowledge and practice. This indicates that nurses working in the surgical related wards lack some knowledge of surgical site infection prevention.

Introduction:

Healthcare related infections are a number one hazard to patients, and their prevention is referred to as a key thing of care first-rate and affected person safety (Wilson, 2016). It is a sizable patient protection issue and a huge difficulty inside the healthcare putting (Hypes, 2012)

Surgical site infection is one among the second commonest healthcare-associated infection (DeShields, 2005; Bartholomeu Diaz & Newman, 2015). It's an infection that happens among thirty days when an operation causes redness, fever, pain and swelling. It's additionally one among the foremost imperative complications of a surgical intervention (Famakinwa, Bello, Oyeniran, Okhiah, & Nwadike, 2014)

According to Centers for Disease management and control (CDC) concerning five hundred,000 surgical site infections occur annually and account for third-dimensional of surgical mortality, prolonged lengths of hospital keep, and redoubled medical prices (Diaz & Newman, 2015). It places a significant economic burden on the attention system. (McGraw et al 2012).

Frequency of surgical infection is 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% (Sickder, Sae-Sia, & Petpichetchian, 2014). In Pakistan a descriptive examine conducted in Peoples medical

university and hospital Nawab shah, from August 2009 to July 2010 confirmed the incidence charge of surgical web page infection as nine.3 %. (Awan, Dhari, Laghari, Bilal, & Khaskheli 2011). Further every other go-sectional study performed in at branch of well known surgical procedure, Pakistan Institute of medical Sciences, Islamabad from January 2010 to December 2011 found the incidence price of surgical website contamination turned into 8.6%. (Malik, Nawaz, Abdullah, Waqar, & Zahid, 2013). Infection control practices form the backbone of nurses. Nurses have the distinctive opportunity to reduce the potential for hospital-acquired infections. By utilizing the skills and knowledge of nursing practice, they can facilitate patient recovery while minimizing complications related to infections. (Benson & Powers, 2011).

The connection among nursing and infection manipulate changed into first identified by way of Florence Nightingale, at some point of the Crimean conflict in 1854, while she served in a military hospital in Scutari, Italy which circumstance changed into awful. After looking at the conditions Nightingale stated, that improving hygienic situations will decrease the range of deaths. Jean Lawrence, chairperson of the contamination manipulate Nurses association stated that Florence Nightingale was probable the primary infection control nurse without sincerely knowing it. These days, nurses are key gamers inside the combat to make certain the survival of contamination manipulate practices. (Smith 2009).

The contribution of nurses to the health and upbeat of the individuals, human beings or nation is nearly immeasurable. Yankee journalist and nursing advocate, Suzanne Gordon says that; by exploitation intensive information, nurses will defend patients from the risks and consequences of sickness, incapacity still as from the risks and consequences of the treatment of sickness. Nurses, so create a true distinction in outcomes. (Federation, 2009.)

According to the Community and Hospital Infection management Association (2009), infection hindrance and management is completed through evidence-based information and up-to-date skills and implementation practices. (Smith, 2009).

Patient safety is vital concern for all health care professionals. All of them area unit concerned in patient care however, nurses play a number one role (McHugh & Stimpfel, 2012). So, it's a vital challenge for nurses to supply quality of medical care to their shoppers (Teshager, 2015). Application of current information and practices by nurses will facilitate stop surgical web site infection, reduces patients' and hospitals expenses and improves patients' quality of life (Sickder et al., 2014). The chance of a surgical web site infection developing depends on each intrinsic factors and alien factors. Though a number of the chance factors of surgical web site infection cannot be changed, however some risk factors will be decreased and controlled b health care personals particularly nurses.

Nurse's pre and post-operative care play a significant to influence infection management responsibilities (Sickder et al., 2014).

In public hospitals of Asian country most of the patients admitted on the day of surgery or a number of days before surgery. So, Nurses information and practices relating to the foreign factors to regulate these surgical web site infections is incredibly vital. So, investigator desires to specialize in foreign factors. There are unit varied ways in which within which nurses will forestall their patients from infections at the side. World Health Organization (WHO) printed comprehensive pointers relating to the hindrance of surgical web site infection. In line with this guideline, its smart clinical apply for patients to tub or shower before surgery antiseptic soap to scale back the infection. Hair ought to either not be removed or, if fully necessary, ought to be removed solely with a clipper on night pre operatively. Hand laundry is that the single most significant live to scale back the chance of infection. Surgical antibiotic prevention ought to be administered at intervals a hundred and twenty minutes before incision, whereas considering the half-life of the antibiotic. 0.5 nothing chloroxidine answer ought to be used for medical care of dressing self-propelled vehicle. Alcohol-based antiseptic solutions. Especially those supported antiseptic gluconate (CHG) area unit suggested for surgical web site skin preparation in patients undergoing surgery. Post op dressing ought to be modified when forty eight hour of the surgery (WHO, 2016). Nurses thus, should have

adequate information and exhibit positive apply towards achieving the goal of hindrance of surgical web site infections therefore, there's a requirement to look at the extent of data and apply of nurses. This study is aimed toward examining the nurses' information and apply relating to the hindrance of surgical web site infection so as to search out lasting thus lotions to the matter so on alleviate the suffering of patients and scale back the economic burden on the health care system.

Problem statement

Infection control is an important concern for all health care professionals specially nurses. Nurses have higher risk for both self-acquiring and transmitting infections to other patients. Surgical site infection incidence rate is higher in our country. A study conducted by (Malik et al., 2013) in Islamabad reported the surgical site infection rate as 8.6%. Another study done by (Awan et al., 2011) in Nawab Shah found its rate as 9.3%. It has also been observed at public hospitals of Faisalabad nurses are not implementing the standard guidelines and modern surgical and sterilization techniques properly to prevent the patients from surgical site infection. The low standard practice of nurses can cause the transmission of infection especially among open wound/site surgeries. So, the rate of surgical site infection can also be higher in Allied Hospital Faisalabad. Thus, nurses are important target population to determine their level of knowledge and practice regarding prevention of surgical site infection to increase the quality of patient care.

Purpose of the Study

The purpose of the study is to assess Nurse's knowledge and practice regarding prevention of surgical site infection

Objectives of the study

General objectives

The main objective of this study is to assess nursing knowledge and practices towards prevention of surgical site infection in selected public hospitals of Lahore, Pakistan

Specific objectives

The Specific objectives of this study are:

1. To assess the level of knowledge regarding prevention of surgical site infection among nurses
2. To assess the level of practice regarding prevention of surgical site prevention among nurses

Research Question

1. What is the level of Nurses' knowledge regarding prevention of surgical site infection
2. What is the level of nurses' practice regarding prevention of surgical site infection

Study Variables

Dependent variables

Nurses' knowledge regarding the prevention of surgical site infection will be dependent variable.

Independent variables

Nurses' practice regarding the prevention of surgical site infection will be independent variable.

Significance of the Study

This study will enhance my knowledge regarding the strategies for the prevention of surgical site infection and its findings will contribute to the nursing practice, nursing education and development of further research in nursing profession as follows:

- For nursing practice, the research findings will help the organization, develop and organize training programs to increase nurses' knowledge and practices for the prevention of surgical site infection
- For nursing education, the research findings will provide information, guide to development of nursing curriculum and nursing courses related to prevention of surgical site infection
- For nursing research the research findings can be used as a baseline reference for further research in nursing profession

Conceptual definitions:

Knowledge:

The fact or condition of knowing something with familiarity gained through experience or association. (Merriam Webster, 2017)

Practice:

To perform or work at repeatedly so as to become proficient (Merriam Webster, 2017)

Nurse:

A person trained to care for the sick or infirm, especially in hospital. (Merriam Webster, 2017).

Surgical site infection:

It is an infection that occurs within 30 days after an operation.(Famakinwa et al., 2014)

Operational definitions

Knowledge

It is a process of gaining new information or skills

Practice

The application of rules and knowledge which leads to action is termed as practice

Nurse

Nurse is a person who cares for the sick people to promote their health

Surgical site infection:

It is an infection which occurs in the surgical patients within in 30days after an operation.

Theoretical Framework:

Theory of Planned Behavior is applicable to this area of study. It was developed by social psychologists Ajzen and Fishbein in1967. This theory explains how attitude and motivation influences human behavior. The theory proposes that "intent' is the most important determinant of a person's "behavior"; and furthermore, that an individual's intention to perform a behavior is dependent upon the "attitude" toward the performance of the behavior. Therefore, the stronger a Person's intention to perform a particular task

(behavior) is, the more likely the person will perform the behavior.

In the context of this study, it is possible to speculate that registered nurses could be influenced by colleagues or friends and peers at the work settings. What is unclear is whether they are influenced in a positive or negative way. Additionally, it is

possible to speculate that the nurses would be influenced by cognitive factors such as decrement in knowledge. Any decrement in knowledge might lead to nurses' non-compliance with recommended guidelines and protocols while performing patient-care activities. This non-compliance would lead to the spread of surgical site infections. (Ajzen, 1985)

Literature review:

A literature overview facilitates the researcher to determine the worthiness of analyzing a selected hassle, and assists in narrowing the scope of inquiry (Creswell, 2013). The aim of this chapter is to check the previous literature that is applicable to prevention of surgical web page contamination in preferred and more mainly nurses' know-how, attitudes and exercise in this vicinity.

Many studies discussed nurses' knowledge and practices on prevention of surgical site infection by using different methodologies in which some studies focused on knowledge only and some with the combination of knowledge and practice unfortunately there is deficiency of this topic in our local literature, so, researcher has to often use the Western studies.

A cross sectional study was conducted at Fauji Foundation Hospital urban center in 2014 to see the gaps in data and practices of the health care employees concerning Health care associated infections on 300 health care employees. Majority of the respondents were nurses 241(80%). The findings disclosed that data of the Health care employees was adequate, but Practices were lacking.

Respondents

having sensible data regarding Health care associated infection were 281 (94%). concerning practices, 143 (47%). (Zaidi, Javed, Naz, & Mumtaz, 2016).

An Institution-based cross-sectional study was conducted by Teshager et al., (2015) on 423 nurses of 2 hospitals (Gondar University Referral Hospital and Debye Markos Referral Hospital) of Ethiopian regional State, Ethiopia. The result measures of this study were data and follow of nurses relating to bar of surgical website infection wherever data and follow of nurses were found to be low. during this study, solely 172 (40.7%) of the respondents were found to be knowledgeable bar of surgical infection and therefore the proportion of nurses UN agency had sensible follow of surgical site infection bar activities was found to be 206 (48.7%). (Teshager, Engeda, & Worku, 2015).

A study was conducted in associate acute care hospital, Shere-E-Bangla Medical school Hospital, Barisal, People's Republic of Bangladesh on 132 nurses by (Sickder, 2010) aimed to assess the

nurse's data and follow concerning interference of surgical wound infection. The results showed that the bulk of nurses (70%) had data concerning interference of SSI at an occasional level ($M = 69.67\%$, $SD = 8.53\%$) with minimum millions of forty eighth and therefore the most millions of ninety two. the bulk of nurses (98.3%) scored the follow of interference of SSI at a high level ($M = 89.95\%$, $SD = 4.06\%$) with minimum millions of eighth and therefore the most millions of ninety six (Sickder, 2010).

A quantitative descriptive cross-sectional study was conducted by Mwakanyamale, A. (2013) as an aimed to assess nursing apply on operative wound care in surgical wards at Muhimbili National Hospital on seventy one nurses. Over 1/2 the participants were discovered to possess poor post-operative wound care apply fifty seven.7%. Thirty participants (42.3%) had sensible apply on post operation wound care and over 1/2 participants (57.7%) had poor apply on post-operative wound care (Mwakanyamale, 2013).

Famakinwa, (2014) was dole out a cross-sectional descriptive survey on one hundred nurses to work out the extent of data and apply of post-operative wound infection interference among nurses within the surgical unit of Obafemi Awolowo University Teaching Hospital. Though majority (66%) of the nurses have smart information of infection management, yet, majority sixty (60%) of the nurses additionally has poor information concerning the interference of post-operative wound infection. Application of sterile dressings to the surgical wound and strict adherence to asepsis were the

foremost occurring preventative measures adopted by nurses within the interference of post-operative wound infection (Famakinwa, 2014)

A study was conducted by Hassan et al., (2011) at national capital North Teaching Hospital assessing existing practices within the hospital room concerning hand laundry, medical aid and sterilization. Total fifty five health personnel nurses together with thirty one theatre and fourteen anesthetic nurses, and ten environmental service personals. A marked lack of information and defective attitudes and practices were determined among an oversized variety of personnel. Concerning routine hand laundry, 84.4% of surgical and anesthetic nurse's incontestable poor apply and it had been determined that the processes of sterilization and medical aid of surgical instrumentation and instruments weren't per the quality counseled procedures. (Hassan, Hassan, Abdrahman, Elshallaly, & Saleh, 2011).

A descriptive-correlation study done by aimed to see in operation space Nurses' information and observe of Sterile Technique on twenty one operating theatre nurses recruited from four hospitals in Samar, Philippines, namely; Calbayog hospital and Hospital, Our girl of Porziuncola Hospital, Camillus Hospital and Samar Provincial Hospital. Majority of the respondents (57.14%) scored among the score vary of seventeen to twenty that is understood as "Excellent", while 38.09% scored among the score vary of fourteen to sixteen that is understood as "Very Good". normally nurses possess "Excellent" information on sterile technique with a weighted mean score

of sixteen.83. Sterile technique was conjointly “Great Extent” with a grand mean of four.78 relating to the extent of observe of sterile technique. Mean scores were among the best scored things. In general, sterile technique was done by the respondents a “Great Extent” with a grand mean of four.78 (Labrague, Arteché, Yboa, & Pacolor, 2012).

A descriptive approach was used by Dhakal et al., (2016) to find out the nurses' knowledge regarding aseptic technique. Fifty six nurses in the operation theatre of selected hospitals, Bhagalpur. The analysis of the data revealed that revealed that, 62.5 % respondents had high knowledge, 37.5% had average knowledge and none of the respondents had low knowledge on aseptic technique. (Dhakal, Angadi, & Lopchan, 2016)

A cross sectional study was conducted by Ayed et al (2015) aimed to assess the level of knowledge and practice of infection control among nurses in governmental hospitals of Palestine on 271 nurses. The study revealed that, approximately half (53.9%) of the studied sample had fair knowledge level (>80%). However, the majority (91.1%) of the studied sample had Good practice (>80%). (Fashafsheh, Ayed, Eqtait, & Harazneh, 2015)

Research Methodology:

Study design

Cross sectional descriptive study design will be used to get information on knowledge and practice of nurses regarding prevention of surgical site infection.

Study setting

Data will be collected from surgical wards of Allied hospital Faisalabad.

Target population

Staff nurses who will work in surgical wards will be recruited for the study.

Sampling

Simple random sampling will be used in this study

Sample Size:

Sample size as calculated by formula.

- Sample size will be 111 as determined by using solving formula
- $N = \text{population}$, $n = \text{sample size}$, $E = \text{Margin of error } 0.5\%$ (If we take confidence interval 95%)
- $n = N / 1 + N(E)^2$
- $n = 320 / 1 + 320(0.05)^2$
- $n = 200 / 1 + 200(0.0025)$
- $n = 200 / 1 + 0.8$
- $n = 200 / 1.8$
- $n = 111$

Inclusion criteria

Staff nurses

Age limitation: 18 years to 50 years

Experience: 1 year or more than one year

Nurses who will voluntarily participate and give consent

Exclusion criteria

Head nurses

Student nurses

Age limitation: Age less than 18 years and more than 50 years

Experience: Less than 1 year

Nurses who will refuse to participate in the study.

Study period

The study will be conducted between November 2017 to February 2018 in the selected hospital.

Research tool

For data collection a structured questionnaire adopted by the researcher (Sickder et al., 2014) will be used to assess:

1. Nurses' socio-demographic characteristic as regards their age, gender, marital status, qualification and working experience and religion.
2. Participants' knowledge will be assessed by 11 multiple response questions as follows: each question has a group of 3 and 4 answers. One point will be awarded

DATA ANALYSIS:

Demographic data analysis & results:

This chapter includes 3 portions of analysis. First analysis was demographic analysis. It gives us details of demographic questions. Descriptive analysis was used

for each correct answer; incorrect answer took zero. The higher scores will indicate higher level of knowledge

3. Practice will be assessed by 12 statements using a 3-item rating scale (ranging from never practice=1, Sometimes practice=2, Always practice=3). The higher scores will indicate higher level of practice

Data Analysis

Data will be analyzed using computer software SPSS version 21. The analysis will include descriptive and inferential statistics to answer the research questions.

Ethical Consideration

Permission for data collection will be obtained from faculty of Independent College of Nursing. Data will be collected from staff nurses of Allied Hospitals Faisalabad, who will work in surgical departments and who will voluntarily participate in this study after getting approval from the Nursing Superintendent of Allied Hospital Faisalabad and signed consent from participants. Subject will be informed that they have a right to participate or not to participate and will explain that their information will be kept confidential.

for two variables. One was independent variable (Knowledge) and one was dependent variables (Practice). It tells us about the effect of knowledge on nurse's practice about surgical site infection.

Table: 1 Demographic characteristic of Patients (n=111)

		Frequency	Percentage
Gender	Male	0	0%
	Female	111	100%
	Total	111	100%
Age	18-25yrs	40	44.4 %
	25-35yrs	35	38.85%
	35-45yrs	22	24.42 %
	Above 50	14	15.54%
	Total	111	100%
Qualification	General Nursing	80	88.8 %
	Post RN	15	16.65 %
	Generic BSN	15	16.65%
	MSN	01	1.11%
	Total	111	100%
Marital Status	Married	65	58.5%
	Unmarried	46	41.4%
	Total	111	100%
Experience	1=<1 year	35	38.85%
	2=1-5 years	45	49.95%
	3=6-10 years	20	22.2%
	4=Above 10 years	11	12.21%
	Total	111	100%

Data was collected from female nurses only. Total no of 111, respondents from Allied Hospital, and Faisalabad were contributed in the research. According to table 1, all participants were female and

contributing of 111 (100%). The range of nurses' age was between 18 to 50 years. According to data received from nurses (Table 1) below analysis is found that the mostly selected sample was based on 18-

25 years of students which were 40 (44.4%) and the 25-35 years 35 (38.85%), 35-45 years of age were 20 (24.42%) and some patients above 50 years old age were 14 (15.54%). Respondent qualification represents that all most of the respondents were nursing diploma 80 (88.8%) and some the respondents were Post RN which were 15 (16.65%) in numbers, 15 (16.65%) were Generic BSN and only 1

(1.11%) participant have MSN. Table no 1 shows that 65 (72.15%) of the respondents were married and 46 (51.06%) participating in this study was unmarried. Table 1 shows that n=35 (38.85%) have less than 1 year experience and n=45 (49.95%) have 1-5 year experience and n=20 (22.2%) have 6-10 year experience and only n=11(12.21%) have above 10 year experience.

4.5.1 INDEPENDENT VARIABLES

KNOWLEDGE (Questions)

Table 2

No	Questions	YES	NO	Do Not Know
01	Do you know Best method for pre-operative shaving?	n= 50 (45%)	n= 34 (30.6%)	n= 27 (24.3%)
02	Does staff existing and reentering the theater affect the incidence of surgical site infection?	n= 50 (45%)	n= 33 (29.7%)	n= 28 (25.2%)
03	Are preoperative showers with antiseptics are cost effective in preventing surgical site infection?	n= 64 (57.7%)	n= 28 (25.2%)	n= 19 (17.1%)
04	Does removal of jewelry, artificial nails and nail polish reduces the incidence of surgical site infection?	n= 54 (48.6%)	n= 7 (6.3%)	n= 50 (45%)
05	Does the puncture rate of surgical gloves correlate with the incidence of surgical site infection?	n= 12 (10.8%)	n= 44 (39.6%)	n= 55 (49.5%)
06	Does administration of prophylactic antibiotics help in preventing surgical site infection?	n= 2 (1.8%)	n= 39 (35.1%)	n= 70 (63.1%)
07	Do malnourished patients and relative	n= 15	n= 38	n= 58

	healthy persons have equal chance of developing surgical site infection?	(13.5%)	(34.1%)	(52.1%)
08	Does increased pain and discharge from wound site indicate surgical site infection?	n= 2 (1.8%)	n= 67 (60.4%)	n= 42 (37.8%)
09	Does time period of operation have effect developing surgical site infection?	n= 58 (52.3%)	n= 3 (2.7%)	n= 50 (45%)
10	Prolong preoperative hospitalization associated with development of surgical site infection?	n= 66 (59.5%)	n= 0 (00%)	n= 45 (40.5%)

Table no 2 describe the responses of the participants to each of the knowledge question which show that most of the nurses have poor knowledge about surgical site infection. Responses of the nurses to knowing the best method for pre-operative shaving shows that most (50) were response to YES which show that they know about it and 34 nurses were response to NO which were negative response. Another important question asked from nurses that staff existing and reentering the theater effect the incidence of surgical side infection, in which 50 nurses were response to YES, 33 were response to No and 28 were not sure about the statement. Similarly the response of the participants to another statement that puncture rate of the surgical gloves correlate with the

incidence of surgical site infection, in which out of 111 only 12 participants were response to YES, 44 were response to NO and 55 participants were DO NOT KNOW which show that most of the participants have no knowledge about the importance of wearing gloves during surgical procedure. Responses of the participants to another knowledge question which state that time period of operation has effect developing surgical site infection, in which 58 participants were agree, 3 were not agree and 50 were neutral about the statement. The overall responses of the participants to knowledge questions indicate that the participants have very little knowledge about the surgical site infection.

DEPENDENT VARIABLE

PRACTICE (Questions)

Table 3

Sr.no	PATIENT SATISFACTION	SD	DA	NEU	A	SA
1	I Wash my hands before and after changing wound dressing touching the surgical site	7 (4.1%)	30 (28.7%)	10 (18.1%)	41 (35.1%)	23 (13.5%)
2	I wash my hand before wearing the surgical glove	29 (22.9%)	19 (17.0%)	22 (18.7%)	26 (26.9%)	15 (14.6%)
3	I perform pre-operative shaving right before surgery	08 (4.7%)	32 (24.6%)	24 (19.9%)	35 (26.3%)	12 (24.6%)
4	I administer pre-operative prophylactic antibiotic within one hour before surgery	7 (4.1%)	26 (15.2%)	12 (12.9%)	53 (42.7%)	19 (25.1%)
5	I advise my patient to take preoperative showering bathing with anti-microbial agent	18 (10.5%)	31 (18.1%)	24 (14%)	35 (26.3%)	03 (31%)
6	I use sterilized dressing material for cleaning surgical wound dressing	33 (25.1%)	19 (11.1%)	23 (19.3%)	32 (36.3%)	04 (8.2%)
7	I use an aseptic technique during surgical wound dressing	5 (2.9%)	17 (9.9%)	19 (11.1%)	69 (40.4%)	21 (35.7%)
8	I Asses and monitor surgical site condition	7 (4.1%)	15 (11.1%)	13 (8.2%)	99 (57.9%)	37 (21.6%)
9	I separate infected dressing from non-infected dressing	14 (7.6%)	48 (28.7%)	45 (26.3%)	25 (14.6%)	30 (22.8%)

10	I use face mask during cleaning surgical wound dressing	37 (21.6%)	24 (14%)	46 (26.9%)	46 (26.9%)	18 (10.5%)
----	---	---------------	-------------	---------------	---------------	---------------

Table no 3 mention the responses of the participants to practice questions. Most of the participants were agree 41 (35.1%) to the question that they wash hands before and after changing wound dressing, 23 (13.5%) were strongly agree, 30 (28.7%) were disagree and only 7 (4.1%) were strongly disagree which show that most of the participant have good practice regarding hand washing. Responses of the participants to another question that performing pre-operative shaving before surgery t necessary, in which 26 (26.9%) were agree, 15 (14.6%) were strongly

agree, 29 (22.9%) were strongly disagree and 19 (17%) were disagree to the question which indicate that most of the participants were poor practice regarding pre-operative shaving before surgery. Another question related to practice state that using of sterilized dressing material for cleaning surgical wound is important, in which 33 (25.1%) were strongly disagree, 19 (11.1%) were disagree, 32 (36.3%) were agree and only 4 (8.2%) were strongly agree which show that most of the participants were limited practice to using of sterilized dressing material.

Section C: Chi-Square Test

Table no 4 Association between knowledge and practice

Test Statistics		
	Knowledge	Practice
Chi-Square	99.919 ^a	62.649 ^b
df	11	14
Asymp. Sig.	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 9.3.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 7.4.

The association between knowledge and practice was assessed through chi square test with p value=0.05, after apply this test the p value found .000 which is significant association between knowledge and practice as shown in above. (Table 5).

Discussion

The current study explores the nurse's information and practices concerning surgical website infection at Allied Hospital metropolis. There was vital relation between respondent's information and follow. The study explore that the information and follow greatly influenced by one another. The chi sq. price of information with follow is p price = .000. The result showing that the link between information and follow is positive and relationship is critical. Therefore the information could be a vital that affects the follow of performance considerably. The study shows that nurses have poor information and practices concerning surgical infection this study reveals that the nurses information were poor regarding interference of surgical site infection. Responses of the nurses to knowing the simplest technique for pre-operative shaving shows that the majority (50) were response to affirmative that show that they understand it and thirty four nurses were response to NO that were negative response. Another necessary question asked from nurses that workers existing and reentering the arena impact the

incidence of surgical facet infection, within which fifty nurses were response to affirmative, thirty three were response to No and twenty eight weren't certain regarding the statement. equally the response of the participants to a different statement that puncture rate of the surgical gloves correlate with the incidence of surgical website infection, within which out of 111 solely twelve participants were response to affirmative, forty four were response to NO and fifty five participants were don't apprehend that show that the majority of the participants haven't any information regarding the importance of sporting gloves throughout surgery.

A similar study conducted by (Humaun, .etal, 2011) that finding indicate that the majority of the nurses have low level of information relating to bar of surgical site infection and it's as a result of that the majority of the nurses have credentials in nursing and therefore the organization didn't give any infection management programmed for his or her nurses as a result of the choice is merely supported service expertise. They conjointly state that nurses' information is influenced

by skilled education and continuous coaching. The study conjointly indicated that the majority of the nurses don't regarding pre-operative shaving, mistreatment sterilize technique and post-operative care that have an effect on the patient care and increase surgical website infection.

The current study also revealed that the practice of the nurses regarding surgical site infection is not satisfactory. Most of the participants were agree 41 (35.1%) to the question that they wash hands before and after changing wound dressing, 23 (13.5%) were strongly agree, 30 (28.7%) were disagree and only 7 (4.1%) were strongly disagree which show that most of the participant have good practice regarding hand washing. Responses of the participants to another question that performing pre-operative shaving before surgery t necessary, in which 26 (26.9%) were agree, 15 (14.6%) were strongly agree, 29 (22.9%) were strongly disagree and 19 (17%) were

Conclusions

The study revealed that nurses reported a low level of knowledge and practice regarding the prevention of surgical site infection. There was a strong, significant positive correlation between knowledge and practice. This indicates that nurses working in the surgical related wards lack some knowledge of surgical site infection prevention. Therefore, the hospital administrators need to conduct education and training programs to enhance knowledge of SSI prevention to improve the quality of nursing care in this area.

Recommendations

disagree to the question which indicate that most of the participants were poor practice regarding pre-operative shaving before surgery.

A study conducted by (Ndikom, C. M., & Onibokun, A. 2007) is linear in line with current the study that state that nurses expertise is

poor concerning surgical website infection and there's tons of issue that have an effect on these practices like not comfortable provides of water, gloves, disposal boxes, antiseptic instruments and surgical instruments. The second issue is that the shortage of nurses thanks to that the nurses have tons of labor. Another issue that they discuss in his study thanks to that the apply affects is that the individual and organization employees quantitative relation, policies of infection hindrance. Within the last they all over those nurses apply were poor thanks to these factors.

Based on the findings of this study, the researchers suggest the following recommendations:

1. Education and training program should be conducted to improve nurses' knowledge and practice in some areas using evidence-based practice.
2. The nursing curriculum should be adjusted to include the prevention of surgical site infection in the contents.
3. Similar research should be conducted in other wards, including operating theaters, other medical wards, or other hospitals in Pakistan.

4. A replication study using observation method is recommended to examine the level of nurses' practice of surgical site infection prevention.

References:

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior *Action control* (pp. 11-39): Springer.
- Awan, M. S., Dhari, F. J., Laghari, A. A., Bilal, F., & Khaskheli, N. M. (2011). Surgical site infection in elective surgery. *J Surg Pak (Int)*, 16, 33-37.
- Benson, S., & Powers, J. (2011). Your role in infection prevention. *Nursing made incredibly easy*, 9(3), 36-41.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.
- Dhakal, B., Angadi, S., & Lopchan, M. (2016). Nurses' Knowledge and Practice of Aseptic Technique in the Operation Theatre at selected Hospitals of Bharatpur. *Significance*, 10(90.9), 0.039.
- Diaz, V., & Newman, J. (2015). Surgical site infection and prevention guidelines: a primer for Certified Registered Nurse Anesthetists. *AANA journal*, 83(1).
- Famakinwa, T., Bello, B., Oyeniran, Y., Okhiah, O., & Nwadike, R. (2014). Knowledge and practice of post-operative wound infection prevention among nurses in the surgical unit of a teaching hospital in Nigeria. *International Journal of Basic, Applied and Innovative Research*, 3(1), 23-28.
- Fashafsheh, I., Ayed, A., Eqtait, F., & Harazneh, L. (2015). Knowledge and Practice of Nursing Staff towards Infection Control Measures in the Palestinian Hospitals. *Journal of Education and Practice*, 6(4), 79-90.
- Federation, A. N. (2009). Ensuring quality, safety and positive patient outcomes. *Australian Nursing Federation, Melbourne*.

- Hassan, A. N., Hassan, M. A., Abdrahman, A. A., Elshallaly, G. H., & Saleh, M. A. (2011). Assessment of existing practices in the operating theatre in the Khartoum North Teaching Hospital, Sudan: original research. *Southern African Journal of Epidemiology and Infection*, 26(2), 79-82.
- Hypes, K. L. (2012). *Infection Control and Health Care-associated Infections in the Nursing Home: A Study to Determine the Impact of an Educational Video and Pamphlet about Infection Control on Knowledge and Perception of Hand Hygiene in Certified Nurse Assistants*. University of Central Florida Orlando, Florida.
- Labrague, L., Arteché, D., Yboa, B., & Pacolor, N. (2012). Operating Room Nurses' Knowledge and Practice of Sterile Technique. *J Nurs Care*, 1(4).
- Malik, Z. I., Nawaz, T., Abdullah, M. T., Waqar, S., & Zahid, M. (2013). Surgical site infections in general surgical wards at a tertiary care hospital. *Pakistan Journal of Medical Research*, 52(4), 116.
- McGaw, C. D., Tennant, I., Harding, H. E., Cawich, S. O., Crandon, I. W., & Walters, C. (2012). Healthcare workers' attitudes to and compliance with infection control guidelines in the operating department at the university hospital of the West Indies, Jamaica. *International Journal of Infection Control*, 8(3).
- Merriam webster dictionary. com (2017) retrived march 22, 2017 from <http://www.merriam-webster.com/dictionary/knowledge, Practice, nurse>
- Sickder, H. K., Sae-Sia, W., & Petpichetchian, W. (2014). Nurses' Knowledge and Practice Regarding Prevention of Surgical Site Infection in Bangladesh.
- Smith, J. M. (2009). By Jacqueline M. Smith, RN, BN, Dyan B. Lokhorst, RN, CHPCN (C), BN (November, 2009) University of Calgary, Faculty of Nursing June, 2009.
- Teshager, F. A., Engeda, E. H., & Worku, W. Z. (2015). Knowledge, Practice, and Associated Factors towards Prevention of Surgical Site Infection among Nurses Working in Amhara Regional State Referral Hospitals, Northwest Ethiopia. *Surgery research and practice*, 2015.
- WHO Surgical Site Infection Prevention Guidelines.(2016).Web Appendix 1 .Overview of available relevent gudelines on surgical site infecion prevention
- Wilson, J. (2016). Guidance on preventing surgical site infection. *Nursing Times*, 112(35), 13-15.
- Zaidi, N., Javed, N., Naz, S., & Mumtaz, A. (2016). Gaps in Knowledge and Practices About Health Care Associated Infections Among Health Care Workers at a Tertiary Care Hospital. *Journal of Islamabad Medical & Dental College (JIMDC)*, 5(2), 84-87.

IJSER