Original Research Article

Knowledge, Attitude and Practice towards standard isolation precautions among registered Nurses

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Abstract: Standard isolation precaution is a way to stop the spread of hospital acquired infection which may be in the form of blood, secretions, body waste, body fluids and mucous membrane that may contain contagious infectious agents. Nurses are the persons who have the moral obligation to care for sick persons and improve their regaining health and attain excellent worth of treatment care. Therefore health care providers should have proper awareness and good practice to strictly adhere to standard isolation precaution to infection control. The aim of the study is to assess the knowledge, attitude and practice of nurses toward standard isolation precaution among registered nurses. Study design of this study descriptive cross sectional was used and 132 participants were participate in this study from Children Hospital, Lahore through convenient sample method and all of the participants were female nurses. Results of the study revealed that answers from the participant clearly predicted that most of the nurses have good knowledge and unsatisfactory attitude and practice toward standard isolation precaution. Conclusion of the current study concluded that using standard isolation precaution is very important for nurses to control hospital acquired infection. Study finding also show that most of the nurses contributing in the study have good knowledge about standard isolation precaution but there attitude were not satisfactory toward standard isolation precaution. Study finding also predict that most of the nurses also have unsatisfactory practice and they do not use standard isolation precaution to control infection.
Keywords: Knowledge, Attitude, Practice, Standard Isolation Precautions, Nurses

INTRODUCTION
Nurses are the persons who have the obligation to look after sick persons and improve their recovery and accomplish excellent level of nursing care. Therefore health care providers specially nurse should have awareness and strictly adhere to standard isolation precaution to prevention of infection [8]. Nurses should have proper knowledge and they should practice according to standard isolation precautions while giving care to patients as an initial level of infection control [9]. Standard isolation precaution is a way to stop the spread of hospital acquired infection which may be in the form of blood, secretions, excretions, body fluids and mucous membrane that may contain contagious infectious agents and material [16]. Standard isolation precaution is a method through which we can prevent the spread of infectious agents for the purpose of patient's regaining of health, attendants and health care providers safe from contagious agents [4].

Standard isolation precautions are the magnitude through which we can minimize the spread of infectious agents in the hospital, because the nurses are the health care provider who treats the exposure more than any other health care provider [4].

Standard isolation precautions are considered to be more important for nurses than any other health care provider because they are responsible to give care to patients and having great exposure to infectious agents as well [23].

According to Zaidi, Javed *et al.* the main role of the nurses is to achieve patient recovery but sometimes they become the source of infection transmission. So with the adherence of some policies, and standard isolation precautions guidelines decrease the chance of infection transmission [29]. Guidelines of isolation precaution have great importance because nowadays the infectious diseases like hepatitis B, hepatitis C and HIV are increasing day by day [1].

According to Baqi nurse's knowledge, attitude and practice with the adherence of standard isolation precautions will decreases the hazard of hospital assimilated infection which is the most important issue in all hospital of Pakistan and ultimately decrease the

morbidity and mortality rate. Hospital acquired infection is the major source of illness and death in hospitals, 10% of patients in developed countries and 25% in developing countries develop infection where standard isolation safety measures are not use properly [3].

According to Sahid a study conducted on nurses to assess the awareness and performs of nurses towards standard isolation precautions. Results of the study shows that most of the nurses did not acquire proper educational and training conferences on the topic of standard isolation precautions and some of them had not taken part in proper learning about standard isolation precautions to infection control [25].

Nurses and other medical students are more susceptible to hospital acquired infection through professional exposure [4]. According to Sarani nurses may become the source of infection transmission if they don't follow standards of isolation precautions [23].

According to Eskander with the adherence of standard isolation precautions, the infectious diseases and all other blood borne diseases may be decreased to some extent.

Adequate knowledge and strict adherence to standard isolation precautions are very significant in order to control the transmission and ultimately to improve the quality of care given to the patient [8].

Guidelines of Standard isolation precautions according to CDC (Centre of disease control) for preventions of hospital acquired infections are the use of personnel protective equipment, like hand washing is the best method for prevention of infection because nurses frequently contact with patients, therefore it is compulsory for nurses to wash hand before and after contact with patients. CDC also recommended that hand hygiene must be done before patient contact and after attending the sick persons. Nurses should also wear gloves when direct contact with patient or patient's body secretions. They should wear gown when taking care of contagious patients. They should wear respiratory mask and goggles for self-protections [26].

According to WHO standard isolation precautions is the use of personal protective equipment which acts as a boundary between infectious agents and wearer because it protect nurses to stop microbes from infecting hand, eyes, clothing, hair and shoes transmission. Particular defensive apparatus includes, mask, gown, goggles, gloves [20].

The purpose of this study is to assess knowledge, attitude and practice of registered nurses toward standard isolation precautions.

Problem statement in this study, it is observed that nurses of government hospital are not following the standard isolation precautions. Nurses are at high risk of exposure of infectious diseases if they did not adapt standard isolation precautions and they also transmit the infectious agents to the patients. Nurses should have appropriate knowledge, attitude and practice toward standard isolation precautions this may decrease the morbidity and mortality rate and ultimately increases the patient recovery rate.

According to Baqi he concluded in his survey standard isolation precautions were not observed in government hospitals with different infectious diseases [3]. Government hospital nurses have poor awareness, behaviour and practices to standard isolation protections and this lead to increase infection rate [16]. Nurse's appropriate awareness, behaviour and refine practices to standard isolation safety measures play a vital role in prevention of hospital acquired infections and increase patient outcome [9].

Nurses have close contact to the patients; therefore results of the study will be helpful for nurses to follow the standard isolation precautions to minimize hospital acquired infections. It will also help the participants of the study to become aware about the adherence of standard isolation precautions and its consequences for them and for patients. After completion of this study results will be provided to organization to know the importance of using standard isolation precautions. The finding of this study will enable the policy makers and higher authority of the hospital to build infection control committee to improve the nurse's practices and attitude and enhance their knowledge to improve patient care and incorporate the standard isolation precaution in the hospital policy.

Research questions of the study
- What is the knowledge of nurses toward the standard isolation precautions?
- What is the attitude of nurses toward the standard isolation precaution?
- What is the practice of Nurses toward standard isolation precautions?

Objective of the study is to assess knowledge, attitude and practice toward standard isolation precaution among nurses.

LITERATURE REVIEW
Standard precautions are guidelines to stop spread of contagion in hospitals. Though, their application is reliant on the proper awareness, attitudes or practice of nurses [21]. Standard isolation precautions practices were not observed in different government hospitals of Pakistan [3].

Standard isolation precautions are important measures for prevention of hospital acquired infection and protecting the all health care workers from the

infectious diseases which faces during professional exposure [19].

Standard isolation precautions are very important for the prevention of hospital acquired infections; if these precautions are not use then the patient outcomes will be poor which ultimately leads to increased medical cost and reduction in the available medical facilities [28].

According to Mohammadzadeh Study revealed that 30.5% of nurses have poor attitude regarding the standard isolation precautions and in 68% moderate attitude. 49%, Nurses poor practice and 43% moderate and only in 8% high practice about standard isolation precautions [19].

According to Mangoni the main reason of infection is improper practices and poor knowledge of nurses or other healthcare team of standard isolation precaution because in government hospitals there is no proper strategies for isolation precaution. The best way to decrease the rate of hospital acquired contagion in the hospitals is to implement standard isolation precautions, which are recommended guidelines to stop or decrease acquaintance to communicable pathogens by nurse, sick persons and their visitors [16].

According to Mangoni the study on knowledge, practice and attitude of nurses in which he shown that attitudes of nurses were adequate but practices and knowledge to standard isolation precautions were unsatisfactory [16]. Boujaafar highlighted in his study about the knowledge, attitude of nurses and standard isolation precautions, such as proper hand hygiene and the accurate use of personnel protective equipment during patient care are easy and of required short time to practice, but need staff accountability and behavioural modification [5]. According to Cole standard isolation precautions and use personnel protective equipment, nurses perform a significant role in spreading or preventing the hospital acquired infection [6].

According to Ahmed a study on nurse's knowledge, attitude toward standard isolation precautions strategies in Birmingham teaching hospitals of contagion control. The results of the study showed that whole awareness, attitude regarding standard isolation precautions of the nurses was poor [2].

The health care workers who are at high risk of exposure to infectious diseases through professional exposure should wear personnel protective equipment that includes the mask, gown gloves, goggles, which use to protect them from infections [7].

According to Ahmed the Nurses do not perform hand hygiene after patient contact. Finding of the study shows that, the best way to improve infection control practices in hospital are training and education of standard isolation precautions, monitoring to adherence, improved availability of resources, and proper use of personnel protective instruments for poor compliance [2].

The inappropriate use of gloves and failure to change the gloves to attending different patient's procedures increase risk of cross transmission of infections between patients and health care providers [15]. 48% infections being associated with failure to remove gloves after patient care and perform hand hygiene [15].

According to Langoya & Fuller Hospital acquired infections increase the mortality and morbidity rate. With the adherence to proper hand washing there will reduce the risk of hospital acquired infections [14].

A survey was conducted in the government hospital Baqi in which they concluded that there was no any infection control committee and no proper hand hygiene practices except ICU [3].

According to Sahid the level of nurse's knowledge and practices towards standard isolation precautions was poor [25].

According to Thomas about 94% of the nurses stated that they face difficulty to the practice of standard isolation precautions in prevention of hospital acquired infections. These difficulties include unavailable resources [27].

According to Thomas study showed that most of the skilled nurses have awareness about the control of hospital acquired contagions but all nurse did not practice according to standard isolation precautions the main reason that to unavailable of proper measures and unavailable of resources [27].

Hospital acquired infections increase the mortality and morbidity rate. With the adherence to proper hand washing there will be reduce the hazard of hospital developed contagions [14].

It is concluded in another study that health care team do not perform hand hygiene during providing patients care. Personnel protective equipment e.g. gowns and other infections equipment were share by health care workers and sharp equipment were not dispose of carefully and thrown in the garbage baskets [3].

According to Punjabi, Banglani *et al.* there is increased risk of spread of infection through the used sharp patient equipment. There should be recapped and dispose of used needles and sharp equipment carefully. 38.5% Nurses had awareness about transmission of Hepatitis B and 44.5% about Hepatitis C, and 17% about HIV/AIDS by needle stick injury. Only 8% use safety measures when dispose sharp patient equipment. 94.5% nurses had faced needle stick injuries during patient care [23]

METHODOLOGY

This is quantitative descriptive cross sectional study which assesses knowledge, attitude and practice of registered nurses toward standard isolation precautions. The site of the study was Children Hospital, Lahore. Targeted population of the study was registered Nurses of Medical I, Medical II, Medical III, Medical IV, Haematology and Oncology ward of Government Hospital Lahore.. Simple size for this study was 132 nurses calculated according Slovin's formula n=N/1+ (N) (E) ^{2}

The study was done through convenient sampling method. Register nurses of Medical I, Medical II, Medical III, Medical IV, Haematology and Oncology ward of Government Hospital Lahore.. All other nurses, Head nurses, student nurses of Government Hospital Lahore. and all other health care members like doctors or other paramedical staff excluded.

A well-constructed likert scale 5 point questionnaire used as the major tool in gathering the data needed for attitude and practice in this study from the registered nurses of Government Hospital Lahore. and 3 point scale for knowledge. The questionnaire of attitude and practice adopted from the study conducted by [19]. The knowledge questionnaire adopted [3].

A well-constructed questionnaire used to collect data from participant through convenient sampling. After collecting data was analyse through (SPSS) version21.

For this research purpose I take permission from principal of Lahore School of Nursing University of Lahore. After approval from principal I take permission from nursing superintendent of Government Hospital Lahore. to collect data from staff nurses of this hospital. To collect data from participants written consent taken which was attached with questionnaire. This study approximately takes in 2 to 4 months (Feb, 2017 to May, 2017).

RESULTS
Data analysis done using SPSS version 21 and descriptive inferential statics done by using SPSS.
Section A: Demographic Analysis

Table-1: Demographic Analysis

		Frequency	Percentage
Gender	Male	00	00%
	Female	132	100%
	Total	**132**	**100%**
Age	20-25	46	34.8%
	26-30	61	46.2%
	31-35	15	11.4%
	36-40	10	7.6%
	Total	**132**	**100%**
Marital Status	Married	52	39.4%
	Unmarried	80	60.6%
	Total	**132**	**100%**
Organization Name	Children Hospital LHR	132	100%
	Others	00	00%
	Total	**132**	**100%**
Qualification	Nursing diploma	88	66.7%
	Specialization	30	22.7%
	Post RN	14	10.6%
	Total	**132**	**100%**
Designation	Registered nurses	132	100%
	Others	0	0%
	Total	**132**	**100%**
Experience	1=<1year	31	23.5
	2=1-5 years	52	39.4
	3=6-10 years	31	23.5
	4=Above 10 years	18	13.6
	Total	**132**	**100%**

Data was collected from female nurses only. Total no of n=132, respondents from Children Hospital, Lahore was contributed in the research. According to table 1, all participants were female and contributing of n= 132, (100%).

The range of participant's age was between 20 to 40 years. According to data received from participants (Table 1) below analysis is found that the mostly selected sample was based on 26-30 years of participants which were n=61 (46.2%) and the 20-25 years n=46 (34.8%), 31-35 years of age were n=15 (11.4%) and some participants 35-40 years old age were n=10 (7.4%).

Respondent qualification represents (Table1) that most of the participants have nursing diploma n=88

(66.7%), specialized nurse were n= 30 (22.7%) and some were Post RN n=14 (10.6%).

Table no 1 also shows that most of the respondents were married n=80 (60.4%) and some were unmarried n=52 (39.6%) participating in this study. And all participants are from Government Hospital Lahore.. n=132, (100%). All percipients of this study were registered nurses of Government Hospital Lahore.. n=132, (100%) were registered nurses.

Table 1 shows that n=31(23.5%) have less than 1 year experience and n=52(39.4%) have 1-5 year experience and n=31(23.5%) have 6-10 year experience and only n=18(13.6) have above 10 year experience.

Section B: Analysis of Research Questions (Knowledge)

Table-2: Analysis of Research Questions (Knowledge)

Sr.#	KNOWLEDGE	YES	NO	DO NOT KNOW	Total
1	Before and after patients care hand hygiene.	108 (81.8%)	10 (7.8%)	14 (10.6%)	100%
2	Before and after gloves use hand hygiene.	90 (68.2%)	33 (25%)	9 (6.8%)	100%
3	After accidental contact of blood, blood contains fluid, secretions and contagion items.	88 (66.7%)	30 (22.7%)	14 (10.6%)	100%
4	When touching mucus membrane and non-intact skin gloves should wear.	85 (64.4%)	27 (20.5%)	20 (15.2%)	100%
5	To protect mucus membrane of the eyes goggles should wear.	73 (55.3%)	4 (34.8%)	13 (9.8%)	100%
6	After contact with blood, bloody fluid and body secretions or infectious item hand washing with beta dine solution.	75 (56.8%)	3 (27.3%)	21 (15.9%)	100%
7	To protect the nose and mouth during invasive processors and activities surgical mask should be wear.	84 (63.6%)	25 (18.9%)	23 (17.4%)	100%
8	Before disposal needle should be bent.	68 (51.5%)	48 (36.4%)	16 (12.1%)	100%
9	Before disposal needle should be recapped.	70 (53.0%)	50 (37.9%)	12 (9.1%)	100%
10	When there is chance to contamination with aggressive processors and activities gown should be wear.	83 (62.9%)	27 (20.5%)	21 (15.9%)	100%

Table no 2 reported a high level of about n=108 (81.1%) of participants were response to YES

and n=10 (7.5%) were NO, n=14 (10.6%) were DO NOT KNOW, that before and after patient care hand

hygiene. In response to question no 2 show that most of the responded were YES n=80 (68.1%) and n=33 (25%) were response to NO about the question. n=9 (6.8%) were neutral and DO NOT KNOW about the above question. In question 3 most of the participants were response to YES n=88 (66.6%) and n=30 (22.7%) were NO to the statement. n=14 (10.6%) of the participants were DO NOT KNOW about the question. In response to question 4 reveal that most of the participants were response to YES n=85 (64.3%) and n=27 (20.4%) were response to NO that about the question and n=20 (15.5%) DO NOT KNOW about the statement. Table no 2 also show responses to the above question of this contrast in which mostly participants n=73 (55.3%) were response to YES and n=46 (34.8%) of the participants were response to NO and only n=13 (9.8%) were DO not know or neutral to the above mention statement.

In response to the question 6 in which n=75 (56.8%) were YES and n=36 (27.2%) were NO to the statement. Very little number of Do not know or neutral which to the above mention statement. Response to the question 7, in which n=84 (63.6%) of respondents were YES and n=25 (18.9%) were response to NO to the statement and only n=23 (17%) were DO NOT KNOW or remained undecided for this statement. In question 8, n=68 (51.5%) of respondents were YES and n=48 (36.3%) were response to NO to the statement and only n=16 (12.1%) were DO NOT KNOW or remained undecided for this statement. Response to question 9, n=68 (53.0%) of respondents were YES and n=50 (37.5%) were response to NO to the statement and only n=12 (9.0%) were DO NOT KNOW or remained undecided for this statement. In question 10, n=83 (62.8%) of respondents were YES and n=27 (20.4%) were response to NO to the statement and only n=21 (15.9%) were DO NOT KNOW or remained undecided for this statement.

Section C: Analysis of Research Questions (Attitude)

Table-3: Analysis of Research Questions (Attitude)

Sr.#	ATTITUDE	SA	A	NEU	D	SD	Total
1	When draw blood sample or touching patient's secretions.	14 (10.6%)	5 (3.8%)	7 (5.3%)	49 (37.1%)	57 (43.2%)	100%
2	When attending infectious patient wear of gown think inconvenient to perform skills of patient care.	16 (12.1%)	22 (16.7%)	13 (9.8%)	54 (40.9%)	27 (20.5%)	100%
3	One should wear gloves when NG insertion and out.	14 (10.6%)	12 (9.1%)	19 (14.4%)	51 (38.6%)	36 (27.3%)	100%
4	Respiratory mask is not necessary and goggles for intubation/extubation and suctioning tracheal tube because they limit his/ her competence.	20 (15.2%)	35 (26.5%)	15 (11.4%)	48 (36.4%)	14 (10.6%)	100%
5	When entering in ICU wearing gown is not necessary.	32 (24.2%)	26 (19.7%)	17 (12.9%)	35 (26.5%)	22 (16.7%)	100%
6	Getting infected with a contagious disease may be accidental (can depend on chance).	14 (10.5%)	26 (19.7%)	22 (16.7%)	52 (39.4%)	18 (13.6%)	100%
7	Before wearing gloves hand washing is a trivial action.	18 (13.6%)	20 (15.2%)	27 (20.5%)	49 (37.1%)	18 (13.6%)	100%
8	It is not reason to assume all patients infectious unless their infection has been Confirmed.	15 (11.4%)	21 (15.9%)	33 (25%)	43 (32.6%)	20 (15.2%)	100%
9	Precautions are not necessary for the infectious patient from reception and waiting room.	28 (21.2%)	24 (18.2%)	20 (15.2%)	42 (31.8%)	18 (13.6%)	100%
10	90cm away from respiratory infectious patient is not effective for transmission.	18 (13.6%)	27 (20.5%)	33 (25%)	41 (31.1%)	13 (9.8%)	100%

Table 3 show response of the respondents to the above mention questions in which most of the respondents n=57 (43.1%) were strongly agree and n=49 (37.1%) were agree. n=7 (5.3%) of respondents were neutral to question 1. n=5 (3.7%) of the respondent's response to disagree and n=14 (10.6%) of the respondents were strongly disagree to the question its means that they show negative response. Table 3 also reveals answers of the respondents to the 2nd question in which most of the respondents n=54 (40.9%) were disagree and n=27 (20.4%) strongly disagree n=13 (9.8%) of respondents were neutral about this question. n=22 (16.6%) of the respondent's response to agree and n=16 (12.1%) of the respondents were strongly agree to this question its means that they show positive response. Response of the respondents to the 3rd question of this contrast in which most of the respondents n=51 (38.6%) were disagree and n=36 (27.7%) were strongly disagree. n=19 (14.3%) of respondents were neutral about this question. n=12 (9.0%) of the respondent's response to agree and n=14 (10.6%) of the respondents were strongly agree to this question its means that they show negative response. 48 (36.3%) were disagree and n=14 (10.6%) were strongly disagree. n=15 (11.3%) of respondents were neutral about 4th question. n=35 (26.5%) of the respondent's response to agree and n=20 (15.1%) of the respondents were strongly agree to this question its means that they show positive response. n=35 (26.5%) were disagree and n=22 (16.6%) were strongly disagree. n=17 (12.8%) of respondents were neutral about the question. n=26 (19.6%) of the respondent's response to agree and n=32 (24.2%) of the respondents were strongly agree to this question its means that they show negative response.

n=52 (39.9%) were disagree and n=18 (13.67%) were strongly disagree. n=22 (16.7%) of respondents were neutral about the 6th question of this contrast. n=26 (19.7%) of the respondent's response to agree and n=14 (10.6%) of the respondents were strongly agree to this question its means that they show negative response. Response of the respondents to 7th question in which most of the respondents n=49 (37.1%) were disagree and n=18 (13.6%) were strongly disagree. n=27 (20.4%) of respondents were neutral about this question. n=20 (15.1%) of the respondent's response to agree and n=18 (13.6%) of the respondents were strongly agree to this question its means that they show negative response. Table no 3 also show response of the respondents to question 8 in which most of the respondents n=43 (32.8%) were disagree and n=20 (15.2%) were strongly disagree. n=33 (25%) of respondents were neutral about this question. n=21 (15.91%) of the respondent's response to agree and n= 15(11.36%) of the respondents were strongly agree to this question its means that they show positive response and n=42(31.82%) were disagree and n=18 (13.64%) were strongly disagree. n=20 (15.2%) of respondents were neutral, n=24 (18.18%) of the respondent's response to agree and n=28 (21.21%) of the respondents were strongly agree to 9th question of this contrast its means that they show positive response. Response of the respondents to the last question of this contrast in which most of the respondents n=41 (31.5%) were disagree and n=13 (9.8%) were strongly disagree. n=33 (25%) of respondents were neutral about this question. n=27 (20.4%) of the respondent's response to agree and n=18 (13.6%) of the respondents were strongly agree to this question its means that they show positive response.

Section C: Analysis of Research Questions (Practice)

Table-4: Analysis of Research Questions (Practice)

Sr.#	PRACTICE	SA	A	NEU	DA	SD	Total
1	After use needles should be bent or recap before dispose.	33 (25%)	29 (22%)	12 (9.1%)	35 (26.5%)	23 (17.4%)	100%
2	After touching patient's surroundings hand hygiene should be done.	17 (12.9%)	14 (10.6%)	16 (12.1%)	62 (47%)	23 (17.4%)	100%
3	When contact with patient blood, bloody fluid and secretion hand hygiene should be done.	20 (15.2%)	13 (9.8%)	14 (10.6%)	52 (39.4%)	33 (25%)	100%
4	When touching patient used instruments, skin, wounds, mucosal membrane and blood and during invasive procedures gloves should be wearing.	17 (12.9%)	19 (14.4%)	16 (12.1%)	42 (31.8%)	38 (28.8%)	100%
5	Have you wear gown in case there has been hazard of wading blood or body Secretions to you?	21 (15.9%)	19 (14.4%)	22 (16.7%)	46 (34.8%)	24 (18.2%)	100%

6	Did you use mask in the last event which wading of blood to your face was possible?	19 (14.4%)	25 (18.8%)	24 (18.2%)	48 (36.4%)	16 (12.1%)	100%
7	One should 90cm away from the respiratory suspicious infectious patient.	23 (17.4%)	23 (17.4%)	24 (18.2%)	48 (36.1%)	16 (12.1%)	100%
8	Decontamination workers and sweeper should wear gloves and gown.	14 (10.6%)	19 (14.4%)	30 (22.7%)	39 (29.5%)	30 (22.7%)	100%
9	For each period Separate sterile syringe and needle should be used for aspirating multi-dose vials.	22 (16.7%)	17 (12.9%)	15 (11.4%)	54 (40.9%)	23 (17.4%)	100%

Table no 4 show response of the respondents to practice question in which most of the respondents n=35 (26.5%) were disagree and n=23 (17.4%) were strongly disagree. n=12 (9.0%) of respondents were neutral about first question of this contrast. n=29 (21.9%) of the respondent's response to agree and n=33 (25%) of the respondents were strongly agree to this question its means that they show negative response. n=62 (46.9%) were disagree and n=23 (17.4%) were strongly disagree. n=16 (12.1%) of respondents were neutral about 2nd question. n=29 (10.6%) of the respondent's response to agree and n=17 (12.8%) of the respondents were strongly agree to this question its means that they show negative response. n=52 (39.3%) were disagree and n=33 (25%) were strongly disagree. n=14 (10.6%) of respondents were neutral, n=13 (9.8%) of the respondent's response to agree and n=20 (15.1%) of the respondents were strongly disagree to 3rd question its means that they show negative response. n=42 (31.3%) were disagree and n=38 (28.7%) were strongly disagree, n=16 (12.1%) of respondents were neutral, n=19 (14.3%) of the respondent's response to agree and n=17 (12.8%) of the respondents were strongly agree to the 4th question of this contrast its means that they show negative response. Response of the respondents to question no 5th in which most of the respondents n=46 (34.8%) were disagree and n=24 (18.1%) were strongly disagree. n=22 (16.6%) of respondents were neutral about this question. n=19 (14.3%) of the respondent's response to agree and n=21 (15.9%) of the respondents were strongly agree to this question its means that they show negative response.

Table no 4 show response of the respondents to the 6th question in which most of the respondents n=48 (36.3%) were disagree and n=16 (12.1%) were strongly disagree, n=24 (18.1%) of respondents were neutral about this question, n=25 (18.9%) of the respondent's response to agree and n=19 (14.3%) of the respondents were strongly disagree to this question its means that they show negative response. n=36 (27.2%) were disagree and n=19 (14.3%) were strongly disagree, n=31 (23.4%) of respondents were neutral about this

question. n=23 (17.4%) of the respondent's response to agree and n=23 (17.4%) of the respondents were strongly agree to this question its means that they show negative response and n=39 (29.5%) were disagree and n=30 (22.7%) were strongly disagree. n=30 (22.7%) of respondents were neutral, n=19 (14.3%) of the respondent's response to agree and n=14 (10.6%) of the respondents were strongly agree to 8th question its means that they show negative response. Table 3 show response of the respondents to the last question of this contrast in which most of the respondents n=54 (40.9%) were disagree and n=23 (17.4%) were strongly disagree, n=15 (11.3%) of respondents were neutral about this question, n=17 (12.8%) of the respondent's response to agree and n=22 (16.6%) of the respondents were strongly agree to the question its means that they show negative response.

DISCUSSION

Hospital developed infection is a collective problem all over the world. Thus, refine knowledge and polished practice toward standard isolation precaution nursing skills can play important roles in preventing infection. Nurses should have the chance to practice according to standard isolation precaution on daily basis as an essential part of patients' care. That is why this cross sectional study was carried out. Standard isolation precautions are central actions for preventing hospital assimilated infections and act as protective measures for health care providers from infection through professional contact. Finding of the study indicated that if the nurses have good knowledge about standard isolation precaution then they positively affect their practice but a little change can also occur in nurse's behaviour.

Results of the current study reveal that most of the nurses were good knowledge about standard isolation precautions n=108 (81.8%) of the nurses response to YES that before and after patient care hand hygiene important to prevent infection out of 132 nurses n=90 (68.2%) of nurses believe that hand washing before and after using gloves is necessary to prevent

infection from patient to patient and also to prevent from hospital acquired infection. There were a lot of knowledge question in which most of the nurses responses positively which means that nurses have good knowledge about standard isolation precaution. In response to another question of knowledge that to protect mucus membrane of eye should wear goggles most of the nurses n=73 (55.3%) response to YES and know that use protective measures during invasive procedure is important.

These findings are in agreement with [8] in which they revealed that the majority (91.6%) of the study participants had awareness about standard isolation precautions of prevention of infection. 97% knew that standard precautions should be accomplished on all patients. When inquired about recommendations for management of sharps instrument 47.7% told that sharps should be recapped. The most of the participants (95.8%) have knowledge that before after direct contact with patients hands should be washed while 96.5% aware that when draw blood sample gloves should be wear. 73% have good knowledge that when touching a patient's surroundings hand hygiene should be done [8].

Finding of the current study showed that most of the nurse's attitude about standard isolation precaution was not satisfactory and they do not use protective measures to prevent from hospital acquired infection. Results from the responded reflect that out of 132 nurses n=49 (37.1%) wer disagree and n=57 (43.2%) were strongly disagree that wear gloves when taking blood sample and touching patient secretions. One should wear gloves when nasogastric tube insertion and out n=51 (38.6%) were disagree and n=36 (27.3%) were strongly disagree which shows negative attitude toward standard isolation precautions. Same like that before wearing gloves hand washing is a trivial action n=49 (37.1%) response disagree and n=18 (13.6%) were strongly disagree which predict that these nurses attitude not meet the standard isolation precautions criteria.

According to Hosoglu S, mention in his study about attitude of nurses toward standard isolation precaution in which he state that only (55%) of the study contributors understood that standard isolation precautions have great importance in infection control and protect them and patients from acquiring infection. Only 7% participants replied that hand washing is not necessary after touching patient surrounding, while 98.9% agree that gloves should be use when touching patient, s blood. The result of the study showed that most of the nurse's attitudes were not good toward standard isolation precaution and they do not have proper knowledge that handing hygiene before and after patient care is necessary [11].

The present study also stated that nurse's practices were poor according to CDC guideline of preventing hospital acquired infection. The current study reveals that out of 132 n=62 (47%) nurses were disagree and n=23 (17.4%) were strongly disagree that after touching patient surroundings hand hygiene should be done this showed the poor practices toward standard isolation precautions. Same like in another response n=52 (39.4) disagree and n=33(25%) were strongly disagree that hand washing after contact with patient blood, bloody fluid and secretions this predict the poor practices of nurses. Same like n=42 (31.8) disagree and n=38 (28.8%) strongly disagree that gloves should be wear when touching patient used instruments skin, wounds and mucosal membrane this also predict the poor practices toward standard isolation precautions. Use of mask when chance of splashing of blood possible which show that n=24 (18.2%) disagree and n=48 (36.4%) were strongly disagree these participants practice were poor due to which there is a chance of transmitting infection from patients to healthcare members. Responses from the nurses to another question regarding practice that have you wear gown in the case there has been hazard of wading blood or body secretions to you n=22 (16.7%) disagree and n=46 (34.8) were strongly disagree responses from these participants show that very little number of nurses has good practice and most of the nurses practice were not according to standards isolation precautions.

According to Khapre M, shows in his study about the practice of nurses, hand hygiene should done, 58.5%, 28.1% and 63.6% always practised hand hygiene after touching patients, after touching patients' surroundings and after removing gloves, respectively which show that nurses practice are not satisfactory and they must have to improve their clinical skill or practice. Only twenty two per cent always wear gloves before taking blood sample of patient which also shows the poor practice of nurses. In relation to injection safety, 33.7% usually recap sharps with two hands, 7.9% sometimes bend or break sharps, while 63.6% had always disposed of sharps/needles in puncture proof boxes in the [13].

CONCLUSION

The current study concluded that using standard isolation precaution is necessary for nurses to prevent hospital acquired infection. Study finding also show that most of the nurses contributing in the study have good knowledge about standard isolation precaution but there attitude were not satisfactory toward standard isolation precaution. Study finding also predict that nurses also have poor practice and they do not use standard isolation precaution to prevent infection.

Recommendations
- Strict monitoring of nurses practices and application standard isolation precautions in prevention of infection by infection control team.
- Higher authority and hospital management team should provide all personnel protective equipment in all departments.
- The hospital higher authority to build some policies and incorporate standard isolation precaution in their hospital's standard operating protocols.
- Hospital management should establish infection control committees to check resources of standard isolation precautions routinely available to infection control and to arrange training sessions and check that attitude and practices improves with provided training.

Strength of the study
- The current study has a number of strengths which are as follows:
- This study conduct in the Pakistan's context which to assess knowledge, Attitude and Practices toward standard isolation precautions among nurses.
- Moreover, this study has collect rich data about knowledge, attitude and practice variables along with the demographic variables simultaneously.
- Self-administered questionnaire was used in this study, which was already been tested for validity and reliability.
- The training of the data collector and continuous supervision during data collection phase by the principal investigator was strength to ensure the appropriate quality of data collected for this study.

Limitations
- The study done in single hospital and the results did not generalize.
- Repeat this study on large sample size and with probability of sampling.
- Explore the factors that were obstacles in practicing toward standard isolation precautions.
- The most considerable limitation of this study the practices not assessed by observation which should be evaluate by observation and which can give most accurate reflection of their practices.

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