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A study to assess the knowledge and practices of universal precautions among staff nurses working in dialysis unit of selected hospitals in Belagavi district, with a view to prepare an information booklet

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Abstract

Like the health care workers, staff nurses have to go through clinical practices accordingly, they run a high risk of being exposed to blood borne disease, but preventive education and measures can reduce exposure to such diseases. It is essential to investigate how dialysis unit staff nurses perform in actual clinical environment. The present research sought to address this gap by exploring the knowledge and practices of staff nurses on universal precautions.

Hypothesis:

All hypotheses will be tested at 0.05 level of significance

- **H1:** There will be significant correlation between knowledge and practices of Universal precautions among staff nurses working in dialysis unit of selected hospitals in Belagavi district.
- **H2:** There will be a significant association of Knowledge and practices of universal precautions with demographic variables of staff nurses working in dialysis unit selected hospitals in Belagavi District.

Method: A descriptive approach with descriptive correlation survey design was used for 50 staff nurses working in dialysis unit, drawn through purposive sampling technique in a BIMS hospital Belagavi Karnataka. The conceptual framework used for study was based on Goal attainment theory by Imogene King (1971). A descriptive research approach was considered appropriate for the study.

The independent variable is knowledge of staff nurses and practices is dependent variable. The content validity and reliability of the tool were established. The pilot study was conducted using a structured knowledge questionnaire and observational checklist. Each staff nurses was observed while performing universal precautions during their working dialysis unit at Govt. general hospital in chikkodi, Belagavi Karnataka following which the knowledge questionnaire was administered, which was collected on the same day.

Results: The analysis of data was based on the objectives and hypothesis. Both descriptive and inferential statistics were used for the data analysis. In this present study the demographic data revealed that majority (78%) of the staff nurses were between the age group of 31-45years where as 10% staff nurses were in the age group below 30 years and 12% staff nurses were in the age group 46-60 years. In the present study majority i.e. 76% of sample had average knowledge, 24% had good knowledge, and none of them had poor knowledge regarding universal precautions. Out of 50 staff nurses working in dialysis unit the 94% of the staff nurses had average practices of universal precautions and 6% had good practices in dialysis unit. None of them had poor practices in dialysis unit. 25 (50%) staff nurses attended the workshop or any other educational program on UP. The chi-square test was computed in order to determine the association between the levels of performance of universal precautions and there was positive correlation between knowledge and practices of universal precautions. [$r = 0.527$, standard error = 0.101, t value = 4.301 ($P = 0.000$, $p > 0.05$)]. There is no significant association between the knowledge of universal precautions and demographic variables since the calculated chi-square values for gender, age in years; education qualification, attended educational program and work experience in dialysis unit are lesser than that of table values at 0.05 level of confidence. Association was formed with practice score universal precautions and age since calculated. chi square value for age is greater than the table value at 0.05 that there is statistically significant association between the practice of universal precautions and selected demographic variables.

Conclusion: The study under that staff nurses' work in dialysis unit had average knowledge in UP and there practices level in average.

Key words: Universal precautions, knowledge, performance, staff nurses, occupational hazards

Introduction

Universal precautions are infection control guidelines designed to protect workers from exposure to diseases, spread by blood and certain body fluid.

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Infection control demands a basic understanding of the epidemiology of diseases caused by commonly encountered microorganism and the practices, procedure and treatment that promote infection. McLane et al. (1983) reported that only few number of nurses practices universal precautions in their clinical practices^[9].

The number of patients with renal failure whose lives have been extended by dialysis has been increasing dramatically. At the national level an average annual increase of 11.1% is the number of chronic dialysis patients has been reported. The number of patients undergoing hemodialysis in a particular hospital, where the present study is conducted has been increasing every year. Thus the increasing concern of patients undergoing dialysis prompted the investigator to examine the problem during the normal course of HD, patients are exposed to several infectious risks¹⁰

The average risk of HIV infection after a needle sticks or cut exposure to HIV-infected blood is 0.3% for a susceptible person, the risk from a single needle sticks or cut exposure to HBV-infected blood ranges from 6-30%. The average risks for infection after a needle stick or cut exposure to HCV infected blood is approximately 1.8%. As of December 2001, CDC had received reports of 57 documented cases and 138 possible cases of occupationally acquired HIV infection among healthcare personnel.¹¹

A descriptive study was conducted on "Knowledge and practice of universal precautions in a tertiary health facility", in Enugur. The size of the sample involved in this study is 246 health workers. One hundred and twenty four (50.4%) of the respondents were aware of universal precautions, while 88 (35.8%) knew the correct definition of universal precaution, 34 (13.8%) had received training on universal precautions Hand gloves were used by 86.6% of the respondents, 32.9% didn't resealed needles and 43.9% practiced appropriate hand washing. The study concluded that the level of knowledge and compliance with precautions in health workers is low. Low level of training¹²

Adherence to universal precautions by health care personnel ranged from 43% to 89%. Appropriate glove use has ranged from a low of 15% to a high of 82%. However, 92% and 98% adherence with the glove use has been reported during arterial blood gas collection and resuscitation respectively. Among nurses and physicians, increasing years of experience is a negative predictor of adherence^[13].

Studies from many countries have shown that specific interventions strategies, such as education, are influential in improving knowledge and compliance of universal precautions which are considered an effective means of protecting patients and staff and controlling infection. It is imperative that this study examines how the attitudes and beliefs of student nurses can be influenced and changed to reinforce adherence to universal precautions within the clinical practice setting. There remains a lack of evidence on the long term benefits of practice interventions to improve compliance, and what specific barriers are influential in affecting how student nurses adopt universal precautions more effectively in their practice.

In view of importance for prevention of occupational hazards and minimizing the spread of blood borne diseases. Almost every nation and their government have appointed separate committees. These committees and WHO together make standards and policies by which emphasis is given over universal precautions, these policies are reviewed time

to time. Training in universal precautions should be fundamental requirement for nursing qualifications; the student nurse should undergo regular training of universal precaution to prevent occupational hazards^[14].

Nurses are the largest occupational group in any health care agency. By virtue of their job responsibility they are frequently exposed to blood and body fluids. The nurse's risk of exposure to health hazards and the nurse as a cause of iatrogenic infection to the patients are equally challenging issues to the nurses all over the world. By using simple techniques of universal precautions nurse can avoid dangerous occupational hazards and the knowledge of prevention of blood borne diseases can make nurses confident to deal with patients suffering from HIV and HBV. Thus the researcher felt it as a need to educate the nursing students regarding universal precautions as an effective strategy to prevent blood borne diseases^[15].

Objectives of the study

1. To assess the knowledge regarding universal precautions among staff nurses working in dialysis unit at selected hospitals.
2. To assess the practices regarding universal precautions among staff nurses working in dialysis unit at selected hospitals.
3. To find out correlation between knowledge and practices of universal precautions among staff nurses working in dialysis unit at selected hospitals.
4. To find out the association between knowledge and practices on universal precautions and selected demographic variables.

Methodology

Research methods refer to steps, procedures and strategies for gathering and analyzing data in research involved. Research methodology is a way to systematically solve the research problem. It is a science of studying how research is done scientifically^[56].

This chapter presents the methodology adapted for the study including research approach. Research design and step taken in the development of the tool. Further this chapter describes the setting, sampling techniques, pilot study and plan for data analysis.

Research approach

The descriptive study is designed to gain more information about characteristics within a particular field of study. Its purpose is to provide a picture of a situation as it naturally happens^[57].

The present study attempts to assess the knowledge and practices of universal precautions of staff nurses working in dialysis unit BIMS hospital Belagavi Karnataka, further it aims to identify the factors associated.

Hence in view of nature of the problem and to accomplish the objectives of the study a quantitative descriptive approach was adopted.

Research design

The research design of a study spells out the basic strategies that the researcher adopt to develop accurate and interpretable evidence. It is the overall plan for how to obtain answers to the questions being studied and how to handle some of the difficulties encountered during the research process^[17].

Research design provides backbone structure of the study. It determines how the study will be organized, when the data will be collected and when interventions, if any, are to be implemented.

Therefore descriptive co relational design was considered as the appropriate design for this study. The purpose of descriptive correlation survey design is to describe variables and examine relationships among these variables in a single group.

Variables

Variables are qualities, properties or characteristics of persons, things or situation that change or vary ^[57].

Two types of variables are used in this study. They are:

1. Dependent variable: In this study dependent variable is practices of staff nurses.

2. Independent variable: In this study independent variable is knowledge of the staff nurses.

Data collection instruments

The instruments selected in research should be as far as possible the vehicle that would best obtain data for drawing conclusions, which are pertinent for the study.⁶⁰

The major task of the researcher is to develop instruments that accurately and precisely measure the variables of interest. Questioning allows gathering of large amount of information from a large sample, relatively quickly and inexpensively. It avoids interviewer's bias, offers anonymity and is cost effective ^[17].

Information required by nurse researchers as evidence of nursing effectiveness or due to improving nursing practices often can be obtained through direct observation.

Since the purpose of the study was to assess the level of knowledge and practices of dialysis unit staff nurses on universal precautions, a self-administered knowledge questionnaire and observational check list was found appropriate.

Development of the instrument

This study was aimed to find out the knowledge and practices of dialysis unit staff nurse in terms of association between knowledge and practices. Nursing studies require the availability of extensive array of measurement tools. Common measurement approaches used in nursing research include physiologic measures, observational interviews, questionnaires and scales ^[18].

For any scientific study one important aspect is the task of systematically collecting observable and measurable evidence upon which inferences could be made ^[18].

Setting of study

The setting for study was, in a dialysis unit BIMS hospital Belagavi, Karnataka.

Population

Population includes 'all possible elements that could be included in research'. 59 the requirement of defining population for a research project arises from the need to which the results of the study can be applied.

In this present study, the population includes staff nurses working in dialysis unit BIMS Hospital Belagavi, Karnataka.

Sample

A sample is a small portion of the population selected for observation and analysis. 59 50 Staff nurses working in dialysis unit BIMS hospital Belagavi Karnataka.

Sampling technique

Sampling technique is the procedure that the researcher adopts in selecting the sample for the study ^[57].

Purposive sampling technique was used to select the sample for this study. Purposive or judgmental sampling is based on the belief that researchers knowledge about the population can be used to handpick the cases to be included in the sample.

Criteria for sample selection

Inclusion criteria

1. Staff nurses who are working in dialysis unit of selected hospitals in Belagavi district. Staff nurses who are willing to participate in the study.

Exclusion criteria

1. Staff nurses who are on sick leave on the day of data collection.
2. Staff nurses who are in supervisory cadre.

Data collection instruments

The instruments selected in research should be as far as possible the vehicle that would best obtain data for drawing conclusions, which are pertinent for the study.

The major task of the researcher is to develop instruments that accurately and precisely measure the variables of interest. Questioning allows gathering of large amount of information from a large sample, relatively quickly and inexpensively. It avoids interviewer's bias, offers anonymity and is cost effective ^[17].

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For any scientific study one important aspect is the task of systematically collecting observable and measurable evidence upon which inferences could be made ^[8].

The tools were prepared on the basic of the objectives of the study. The following steps were adopted in the development of the instruments:

- Review of literature provided adequate content for the tool preparations.
- Personal experience, consultation with experts and discussion with peer group.
- Prior to structuring the questionnaire the investigator visited various units of the hospital and collected

relevant data necessary to construct the items for the knowledge questionnaire.

- Prior to the preparation of the check list the investigator observed the common practices of staff nurses working in dialysis unit on adherence to universal precaution. This provided relevant data necessary to construct the observational checklist.
- Development of the blue print.
- Construction of demographic Pro forma, structured knowledge questionnaire and observational checklist to assess the knowledge and observation on universal precautions.
- Content validity.
- Reliability.

Description of Blue print:

A blue print for the knowledge questionnaire on universal precautions was prepared. This consisted of items pertaining to the three domains of learning i.e. knowledge, understanding and application. There were 24 items (48%) on knowledge domain, 11 item (22%) on understanding and

15 items (30%) on application domain.

A blue print for the observational checklist on practices of universal precautions was prepared. This consisted of items pertaining mainly on the application aspect comprising of 50% items.

Description of the final instruments

Tool 1: Structured knowledge questionnaire

Tool 2: Structured observational checklist.

Tool 1: Structured knowledge questionnaire

Part 1: Demographic pro forma

A pro forma for selected personal information was used to collect the sample characteristics. The characteristics included: Age sex, education qualification, attended any educational program, work experience in dialysis unit.

Part II: Structured knowledge questionnaire

The related literature was reviewed for the construction of the structured knowledge questionnaire.

Table 1: The related literature was reviewed for the construction of the structured knowledge questionnaire

S/NO	Content	Question Number			Total	%
		Knowledge	Comprehension	Application		
1	Universal Precautions as policy	1-10	11	--	11	22
2	Exposure to blood and OPIM	12-15	16-18	19-22	11	22
3	Use of PPE	23	24	25-30	08	16
4	Use of vaccination	31-33	--	--	03	06
5	Occupation safety	34-39	40-45	46-50	17	34
	Total	24	11	15	50	100

All the items were multiple choice questionnaires which had four alternative responses. A score value of (1) was allotted to each correct response. The total knowledge score was 50

an arbitrary classification of knowledge score was done, which was classified as:

Table 2: Classification of knowledge score

S/no	Classification of knowledge	Score
1	Good knowledge	35-50
2	Average knowledge	20-34
3	Poor knowledge	00-19

Tool II: Structure observational checklist

A structured observational checklist was developed after reviewing the related literature to assess the practices of staff nurses in practicing universal precautions.⁵⁶

The assessment of practices was done on staff nurses performing patient care. The activities/ steps were categorized under the following headings.

Table 3: Activities/ steps were categorized wise divided

S/No	Content	knowledge	Comprehension	Application	Total	%
1	Personal Hygiene	--	--	1-4	4	8
2	Self-protection	--	--	5-9	5	10
3	Protection During patient care					
	a) Use of gloves	--	--	10-19	10	20
	b) Hand washing	--	--	20-24	5	10
	c) Eye mouth protection	--	--	25-26	2	4
	d) Protection clothing	--	--	27-28	2	4
4	Handling and disposal of sharp	--	--	29-38	10	20
5	Health promotion practices	--	--	39-47	9	18
6	Supervision and protection of juniors	--	--	48-50	3	6
	Total	--	--		50	100

A score of 1 was assigned for correct action and score (0) was assigned for improper action.

The total score was ^[50]. The arbitrary grading was done as:

Table 4: Total performance of score

S/No	Performance	Total score
1	Poor practice	0-19
2	Average practice	20-35
3	Good practice	36-50

Development of criteria checklist

The criteria rating scale was prepared to assess the relevancy, accrued and appropriateness of the items included in the demographic pro forma, structured knowledge questionnaire and observational checklist.

Content validity of instruments

Content validity concerns the degree to which an instrument has on appropriate sample of items for the concept being measured. It involves the representativeness of items related to the concept being tested.

The structured knowledge questionnaire, demographic pro forma and observational checklist were given to five experts along with the blue print and objectives of the study to establish the content validity of the tool. The experts were from the field of nursing. (Medical surgical nursing dept.) They were requested to give their opinion and suggestions regarding the relevancy, clarity and appropriateness. After considering suggestion certain modification were done in tool.

Reliability of the tool

Reliability of the tool was tested by introducing tool among staff nurses by using Karl Pearson's coefficient of correlation and Spearman's Brown proficiency formula. The results of the reliability ' r , =0.89.

The reliability was estimated for the structured observational checklist on universal precaution. Spearman's rank order correlation was used to find out the reliability. The reliability coefficient was ' r , = 0.82.

Pilot study

"A pilot study is a small preliminary investigation of the same general character as the major study". It is designed to acquaint the researcher with the problems to be corrected in preparation for the larger research project and try out problems for collecting the data.⁶¹

The pilot study was conducted in a Govt General Hospital Chikkodi Dist. Belagavi Karnataka, from 9th May 2017 to 10th May 2017 to assess the feasibility and practicability of the design, involving 06 staff nurses who were working in dialysis unit

.After obtaining permission from Administrative Medical officer Govt. General Hospital Chikkodi Dist. Belagavi Karnataka, The purpose and usefulness of study was explained to the participants and written consent was taken from them prior to the study to obtain their co-operation. They were also assured of the confidentiality of their responses. By using structured knowledge questionnaire, knowledge of the staff nurses was assessed. Participant observation of these staff nurses was done while performing universal precautions and was scored on the observational checklist. The research tools were found to be feasible and practicable hence no change was made after the pilot study.

Data collection process

The data collection process involves the precise, systematic gathering of information relevant to the research purpose,

questions or hypothesis of a study^[18].

The data collection period extended from 11th May 2017 – 29th May 2017. The staff nurses were taken by purposive sampling each staff nurses was observed while performing patient care and adherence to universal precautions. After the participant observation, the knowledge questionnaire and observation checklist was administered which was collected on the same day. An average of 2-3 observations was done per day. Following which the knowledge questionnaire was administered to the participant. The data collection process was terminated after thanking participant for their participation and co-operation.

Plan for data analysis

The data was collected and analyzed by descriptive and inferential statistical method. Descriptive statistics was used to describe sample characteristics in terms of frequency and percentage. Inferential statistics was used to determine the association between knowledge and practices (compliance) by using chi-square test.

Projected outcome

The findings will reveal deficit regarding level of knowledge and practices with universal precautions among nurses which will be a guide for the preparation of information booklet.

Results

The data themselves do not provide us with answer to our research questions. Ordinarily, the amount of data collected in a study is too expensive to be reliably described by mere personal. In order to meaningfully answer the research questions, the data must be processed and analyzed in some order^[17].

Data analysis is described as "Categorizing ordering, manipulating and summarizing the data to obtain answer to research questions. The purpose of analysis is to reduce the data to an intelligible and interpretable form so that the relation of research problems can be studied".

A descriptive study to assess the adherence of staff nurses to universal precautions was conducted in BIMS hospital Belagavi. Data was collected from staff nurses working in dialysis unit.

The data was analyzed based on the objectives of the study. The objectives of the study were to.

Objectives of the study

1. To assess the knowledge regarding universal precautions among staff nurses working in dialysis unit at selected hospitals.
2. To assess the practices regarding universal precautions among staff nurses working in dialysis unit at selected hospitals.
3. To find out correlation between knowledge and practices of universal precautions among staff nurses working in dialysis unit at selected hospitals.
4. To find out the association between knowledge and practices scores on universal precautions and selected demographic variables.

The data collected was organized, tabulated, analyzed and interpreted by means of statistical tables and graphs. The data was presented under the following headings:

Section I: Description of sample based on demographic characteristics:

The demographic data would be analyzed using frequency and percentage.

Section II: Level of knowledge of ‘Universal precautions’.

Level of knowledge regarding universal precautions would be analyzed using frequency, percentage and mean percentage scores.

Section III: Level of practices of universal precautions during working in dialysis unit.

Level of practices of universal precautions during working in dialysis unit, would be analyzed using frequency, percentage and mean percentage scores.

Section IV: Correlation between knowledge and practices of universal precautions.

Correlation between knowledge and performance of universal precautions would be analyzed using Spearman’s rank order correlation knowledge and practices in age sex, education qualification attended any educational program workshop seminar, be found out using chi square test. The level of significance was set at 0.05 level.

Section V: Association between knowledge and practices scores on universal precautions and selected demographic variables.

Association between knowledge and practice in age sex, education qualification attended any educational program workshop seminar, be found out using chi square test. The level of significance was set at 0.05 levels.

Section I Description of sample characteristics.

The present study used purposive sampling as the sampling technique. The size of the sample was 50 staff nurses working in dialysis unit BIMS hospital Belagavi Karnataka. Sample characteristics included age sex, education qualification attended any educational program workshop seminar,

The frequency and percentage of the sample by their demographic characteristic are presented in the following table.

Table 5: Distribution of sample according to demographic characteristics (N = 50)

Sl. No	Variables	Frequency	Percentage
	Gender		
	a. Male	20	40
	b. Female	30	60
2.	Age in Years		
	a. Below 30yrs	5	10.0
	b. 31-45 yrs.	39	78.0
	c. 46-60 yrs.	6	12.0
3.	Education Qualification		
	a. DGNM	38	76.0
	b. BSc (N)	1	2.0
	c. PCB Sc (N)	11	22.0
4.	Attended Educational programme		
	a. Yes	25	50.0
	b. No	25	50.0
5.	Experience in Dialysis unit		
	a. 1-05yrs	6	12.0
	b. 06-10yrs	38	76.0
	c. Above 10yrs.	6	12.0

1. Age distribution of dialysis unit working staff nurses

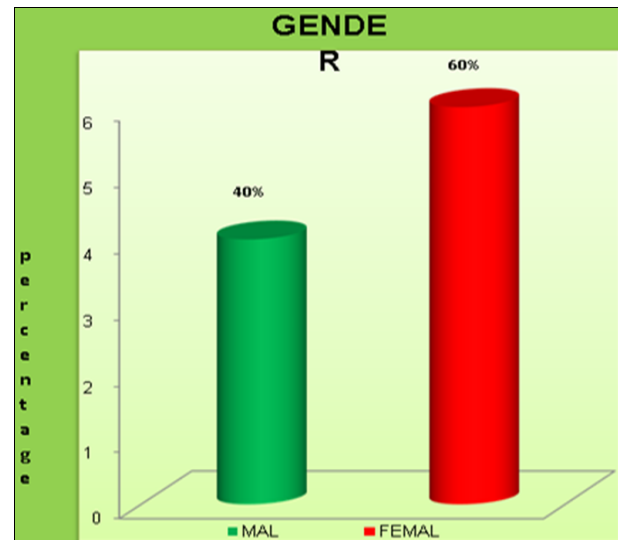


Fig 1: Cylinder diagram shows in age distribution of dialysis unit working staff nurses working on dialysis unit.

The above diagram depicts that majority of the samples i.e.60% are female and40% were male staff nurses.

2. Distribution in age in years

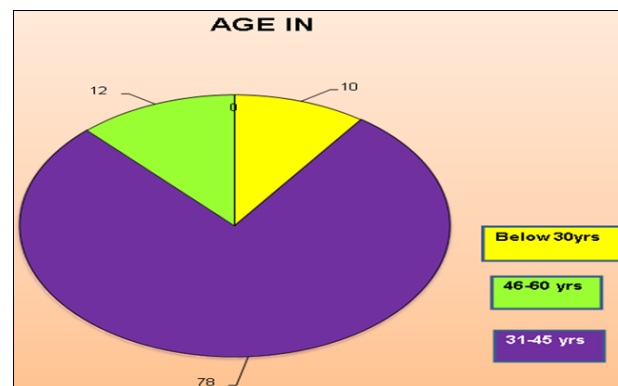


Fig 2: Pie diagram showing the age distribution of the dialysis unit staff nurses.

The above diagram shows that that78% of sample falls in the age group between 31-45yrs, 12% in 46-60yrs and 10% in below 30yrs age group.

3. Education qualification

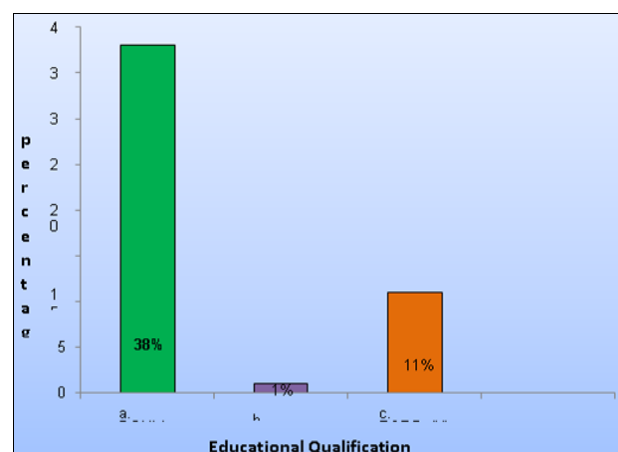


Fig 3: Bar diagram showing distribution in dialysis unit staff nurse’s education qualification

The above diagram shows that that the distribution of frequency percentage of demographic variables in the staff nurses working in dialysis unit education qualification.38%

of samples were diploma nurses, 11% of them completed PCB SC (N), and 1% were BSc (N) degree holder.

4. Distribution attended educational program

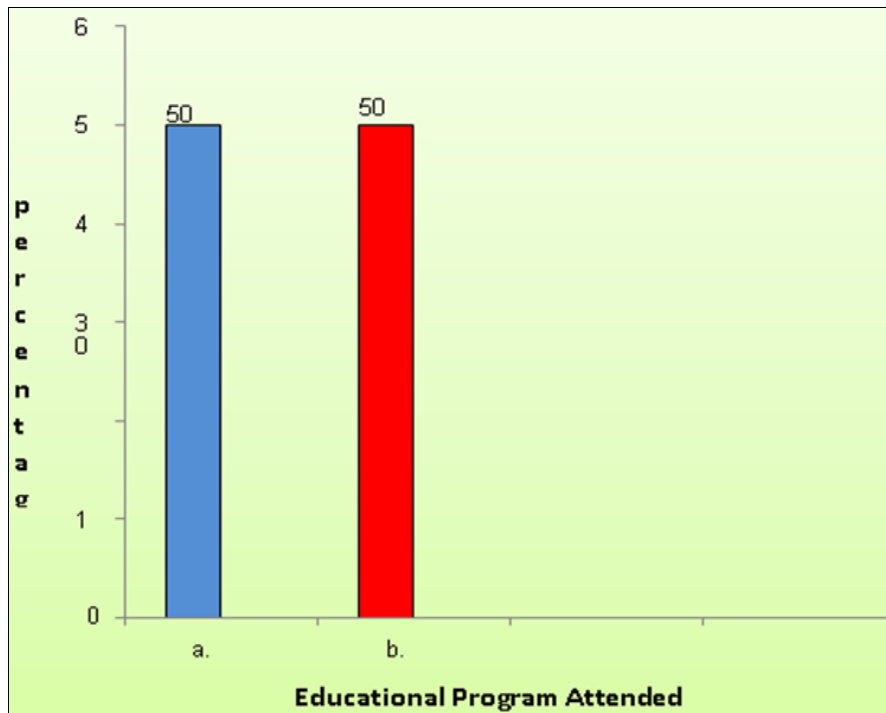


Fig 4: Bar diagram showing distribution in dialysis unit staff nurses based on educational program they attended.

The above diagram reveals that 50% of the samples had attended the educational program and remaining 50% did

not attend any educational program regarding universal precaution.

5. Work experience in dialysis unit

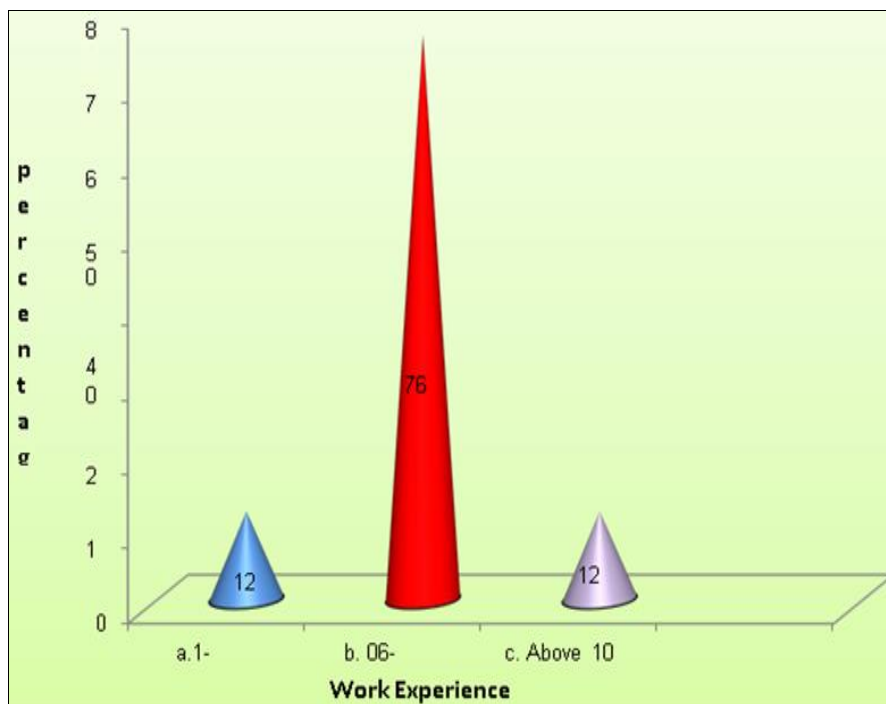


Fig 5: Cone Diagram showing the work experience

The above diagram shows that 76% of staff nurses had 6-10 yrs. of experience, 12% have above 10 yrs. of experience

and another 12% have below 5 yrs. of work experience.

Section II

Table 6: Level of knowledge universal precautions (N = 50)

SI. No	Knowledge level	Frequency	Percentage (%)
1	Poor	0	0
2	Average	38	76
3	Good	12	24
	Total	50	100

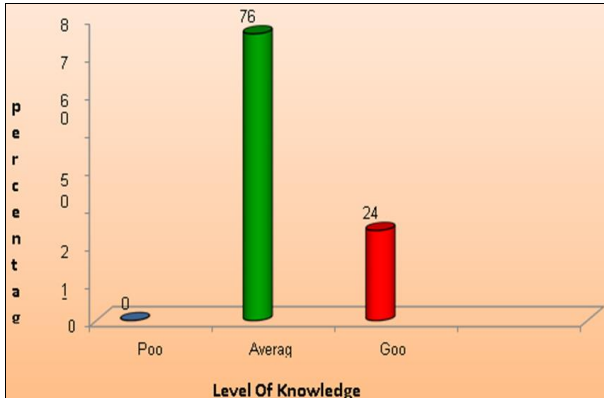


Fig 6: Bar diagram showing distribution of dialysis unit staff nurses based on Level of knowledge regarding Universal precautions.

The above table and diagram shows that 0% subjects had poor knowledge 76% subjects had average knowledge and 24% subjects had good knowledge regarding Universal precautions.

Section III

Table 7: Level of practices of universal precautions during working in dialysis unit. (N = 50)

SI. No	Practice level	Frequency	Percentage (%)
1	Poor	0	0
2	Average	47	94
3	Good	03	06
	Total	50	100

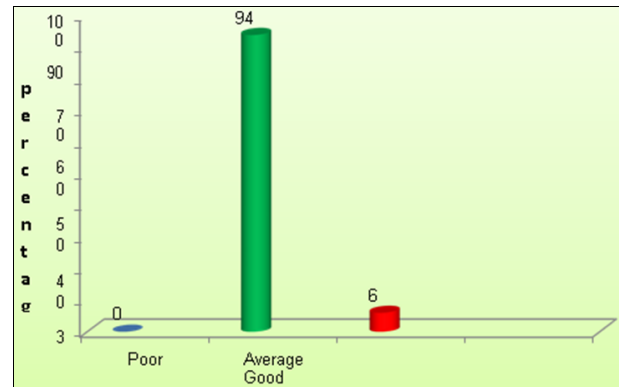


Fig 7: Bar diagram showing distribution of dialysis unit staff nurses base on Practice level

The above table and diagram shows that 0% subjects had poor practice 94% subjects had average practice and 06% subjects had good practice.

Section IV

Table 8: Correlation between knowledge and practices of universal precautions (N = 50)

	Correlation coefficient	Standard error	t- value	P value
Pearson's product moment correlation between knowledge and practices UP	r = 0.527	0.101	4.301	> 0.000

Df = 48 *p>0.05

Above the table shows the correlation between knowledge and practices of universal precautions Karl Pearson's co efficient correlation formula is used to work out the correlation between knowledge and practices of universal precautions. The reveals that is positive correlation between knowledge and practices regarding universal precautions. Hence research hypothesis i.e there is correlation between

knowledge and a practice regarding universal precautions among staff nurses working in dialysis unit is accepted.

Section V

Association between knowledge and practices scores on universal precautions and selected demographic variables.

Table 9: Association between knowledge score on universal precautions and selected demographic variables. (N = 50)

S/No	Demographic variable	Respondent	Median in knowledge		Chi- square value	Df	p- value	Inference
			Below median	Above median				
1	Gender	Male	8	12	2.630	1	0.105	NS
		Female	19	11				
2	Age in years	Below 30	2	3	0.782	2	0.676	NS
		31-45	21	18				
		46-60	4	2				
3	Education qualification	DGNM	22	16	1.729	2	0.421	NS
		BSc(N)	0	1				
		PCB Sc (N)	5	6				
4	Attended educational program	Yes	14	11	0.081	1	0.777	NS
		NO	13	12				
5	Work experience in dialysis	1-5Years	2	4	3.139	2	0.208	NS
		6-10Years	20	18				
		Above 10years	5	1				

df=48 *p>0.05 Note: Critical value: 3.841 for 1 degree of freedom; 5.991 for 2 degrees of freedom and 7.815 for 3 degrees of freedom at 0.05 level of confidence. NS-Not significant; S-Significant

The above table depicts the chi-square test value established at 0.05 level of significant for finding out the association between knowledge of universal precautions and selected demographic characteristics. The table denotes that calculated chi square values gender, age in years, education

qualification, attended educational program and work experience in dialysis unit are lesser than that of table values at 0.05 level of confidence. Hence there is statistically significant association between knowledge and demographic variables.

Table 10: Association between practices scores on universal precautions and selected demographic variables. (N = 50)

S/No	Demographic variable	Respondent	Median in knowledge		Chi- square value	Df	p- value	Inference
			Below median	Above median				
1	Gender	Male	8	12	2.630	1	0.105	NS
		Female	19	11				
2	Age in years	Below 30	0	5	6.646	2	0.036	S
		31-45	23	16				
		46-60	4	2				
3	Education qualification	DGNM	22	16	0.882	2	0.421	NS
		BSc (N)	0	1				
		PCBc (N)	5	6				
4	Attended educational program	Yes	14	11	0.081	1	0.777	NS
		No	13	12				
5	Work experience in dialysis	1-5Years	2	4	5.469	2	0.065	NS
		6-10Years	20	18				
		Above 10years	5	1				

Df = 48 * $p > 0.05$

Note: Critical value: 3.841 for 1 degree of freedom; 5.991 for 2 degrees of freedom and 7.815 for 3 degrees of freedom at 0.05 level of confidence

NS-Not significant; S-Significant

The above table depicts the chi-square test value established at 0.05 level of significant for finding out the association between practices of universal precautions and selected demographic characteristics. The table denotes that calculated chi square

Value for age is greater than the table value at 0.05 level of confidence hence it is concluded that there is statistically significant association between the practice of universal precautions and demographic variables such as age in years.

Discussion

A number of events have been organized to help create awareness about blood borne diseases in India. The harsh realities are however, far from ideal, and it will require a lot to achieve effective implementation. Statutory safeguard for occupational hazard in India hospitals have still not achieved the desired standard. In view of this, a study looking into the knowledge regarding universal precautions among staff nurses working in dialysis unit. Was conducted which led to the following findings which have been discussed with reference to the objectives and hypotheses stated in the initial chapter.

The major findings of the study were as follows.

Section I Sample characteristics.

Majority (78%) of the staff nurses working in dialysis unit were within the age group of 31-45 years, Majority of (60%) of staff nurses were females and 76% dialysis unit staff nurses education qualification was in Diploma in general nursing midwifery, 50% of staff nurse had attended educational program on UP. 76% samples had 6-10years dialysis unit work experience.

Attended any workshop or any other specific educational program related to universal precautions in the present study. A similar survey findings reported that staff nurses had undergone special training and educational program related to universal precautions 53.

The results indicate that the hospital would have failed to

organize policies, which would increase the staff nurses level of competency and performance in specific areas. In the light of current nursing shortage extra workload, increased working hours and lack of motivation could have been one of the reasons of staff nurses in up grading their knowledge and competence.

Section II: level of knowledge in universal precaution.

Out of 50 staff nurses working in dialysis unit 76% had of average knowledge and 24% had good knowledge regarding UP. None poor knowledge in out of 50 staff working in dialysis unit.

With the above discussion and literature supports, we can draw a conclusion that in general though the staff nurses had an average knowledge regarding universal precautions still continuing education coupled with supervision, motivation and provision of adequate facilities from health care establishment are essential to create a feeling of personal and professional adequacy.

Section III: Level of practices of universal precautions during work in dialysis unit.

Out of 50 staff nurses working in dialysis unit 94% them had of average practices of universal precautions and 6% had of good practices and none had poor practices.

In one of the studies which was conducted on doctors and nurses, researcher suggested, education, monitoring, improved availability of resources, and disciplinary measures for poor compliance are necessary to improve practices of universal precautions²⁵.

Section IV: correlation between knowledge and practices of universal precautions

There was positive correlation between knowledge and practices on universal precautions [$r = 0.527$, standard error = 0.101, t -value = 4.301 ($P = 0.000c$, $p > 0.05$)]. These findings are not supported with any of the literature. It is well known that with age comes experiences and apparently with age and experience comes knowledge.

Section V: Association between knowledge and practices of universal precautions in demographic variable.

1. Association between knowledge of universal precautions in demographic variables.

There was no significant association was found between the knowledge of universal precautions and the demographical variables calculated chi-square values for gender, age in years, education qualification, attended educational program and work experience in dialysis unit were lesser than that of table values at 0.05 level of confidence. Hence it is concluded that there is no significant association between knowledge and demographic variables. Association between practices of universal precautions in demographic variables. There was statistically significant association was found between the practices of universal precautions and demographic variables such as age in years. (5.991 for 2 degrees of freedom at 0.05 level of confidence). Gender education qualification, attended educational program and work experience in dialysis unit had no statistically significant association since the calculated chi square values were lesser than that of table values at 0.05 level of confidence.

This would have led to an underestimate of inappropriate performance. As performance is influenced by many personal factors, it applies to the observer as well as those being observed. For instance, the performance process could be influenced by a variety of affective, motivational, attention and stylistic factors. The other contributing factors leading to unsatisfactory performance could be inadequate nurse-patient ratio, inadequacy of supplies, lack of supervision, lack of established protocols, and an absence of performance appraisal and nursing audit.

The literature support related to hands-on performance was lacking due to the methodological difficulties, which prevents the researcher to ponder over these issues. Hence a skill performance model should be developed which should judge the quality of performance, adherence to universal precaution guide lines and amount of assistance needed to demonstrate the action to enhance the skill and improve clinical behavior of the staff nurses.

Conclusion

The nursing management of people with blood borne diseases involves the risk of occupational hazards to health care workers. As staff nurses and health care workers become more involved in patient contact during their practices, they are at risk of exposure to blood borne pathogens.⁶⁴ The safety of staff nurses and health care workers themselves, and subsequently that of their patients, depends directly upon the degree to which staff nurses have knowledge of occupational hazards specific to their jobs and management mechanism for mitigating those hazards. The level of occupational safety and health training resource available to staff nurses, as well as management support, are critical factors in preventing adverse outcomes from routine job-related hazards.

On the basis of findings of the study following conclusion was.

1. Staff nurses overall knowledge was average with compliance.
2. There was positive correlation between in knowledge and practices of universal precautions
3. There was no significant association between knowledge of universal precautions.
4. There is statistically significant association between the

practices of universal precautions and demographic variables such as age in years (5.991 for 2 degrees of freedom at 0.05 level of confidence). Gender education qualification, attended educational program and work experience in dialysis unit had no statistically significant association since the calculated chi square values, are lesser than that of table values at 0.05 level of confidence.

5. The data from the study suggested that in-service educational program can be an integral part of the staff development program to improve their knowledge and practices.
6. Information booklet can be logical solution to improve the knowledge and practices of universal precautions.

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Conflict of Interest

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