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Santosh Indi

Assistant Professor. BLDEA's
Shri B M Patil Institute of
Nursing Sciences, Vijayapur,
Karnataka, India

Satish B Nadagaddi

Assistant Professor. BLDEA's
Shri B M Patil Institute of
Nursing Sciences, Vijayapur,
Karnataka, India

Dr. Ninganagouda G Patil

Associate Professor. BLDEA's
Shri B M Patil Institute of
Nursing Sciences, Vijayapur,
Karnataka, India

Shreekant Savakar

B.L.D.E.A's Shri B M Patil
Institute of Nursing Sciences,
Vijayapur, Karnataka, India

Correspondence

Mr Santosh Indi

Assistant Professor. BLDEA's
Shri B M Patil Institute of
Nursing Sciences, Vijayapur,
Karnataka, India

A study to assess knowledge & attitude regarding nosocomial infection among staff nurses working in intensive care units of selected hospital at Vijayapura

Santosh Indi, Satish B Nadagaddi, Dr. Ninganagouda G Patil, Shreekant Savakar

Abstract

Background: Nurses are the health care professionals whose duty it is to protect patients from acquiring infections while hospitalized or while in a health care set up. By maintaining an infection free environment, the patient's recovery will be promoted and high-quality nursing care will be delivered. Nurses spend most of their time with patients. Therefore, they should have a good level of understanding of the knowledge, attitudes and practices in infection prevention and control in health care setups. As these infections occurs during hospital stay, they cause prolonged stay, disability, and economic burden. According to extended prevalence of infection in ICU are study the proportion of infected patients within the ICU are often as high as 51%. Based on extensive studies in USA & Europe shows nosocomial infection incidence density ranged from 13.0 to 20.3 episodes per thousand patient days.

Aims and objectives: The aim of the study was to determine the knowledge, attitudes of nurses regarding infection prevention and control.

Materials and Methods: A pre experimental one group pre test post-test research design was used for the study. In this study convenient sampling technique was adopted to draw the samples. The investigator has selected 50 staff nurses working in selected hospitals of Vijayapur. In this study, the investigator used structured knowledge questionnaire & lickert scale to assess the knowledge and attitude of staff nurses. Paired 't' test was used to find out the significant difference between pre test and posttest.

Results: Regarding demographic variables that majority 50% (25) of the participants here in the age group of 20-30 years 40% (20) participants were gender the age group of 30-40 years and remaining 10% (5) participants were 40-50 years, Findings reveals that majority 66% (33) of the participants were males & 34% (17) participants are females, The majority of the staff nurses were GNM 50% (25), BSC 24% (12) and P.BSC 26% (13) degree holders, The majority of staff nurses working in ICU's 44% (22), SICU 24% (12), NICU 18% (9) and 14% (7) participants. Knowledge regarding nosocomial infection or any previous training regarding 76% yes (38) and 24% No (12).The majority of staff have previous knowledge regarding nosocomial infection through communications 48% (24), through co-workers 26% (13), media 20% (10) and journals 6% (3). Knowledge level of staff nursing regarding nosocomial infection the participants knowledge scored pretest got as average knowledge level 87.5% (46) and poor 12.5% (4) After conducting STP. Post test scores revealed as, good- 100% (50) level scores. After conducting STP. The post test scores revealed as most favorable 100% (50) ie, there is increase in attitude scores of the majority staffs. Findings revealed that the ICU's staffs here an overall gain in the knowledge with the administration of STP, The knowledge mean, pre test 14% and in post test 29.28. It shows there is effectiveness of STP and in attitude, the attitude mean pretest 53.7 and in post test 83.34. In the present study, We find outer that there is no significant association between the knowledge and attitude scores with selected demographic variables.at 0.05 level of significance.

Conclusion: The findings of the study support the effectiveness of Structural teaching programme has increased the knowledge & Attitude regarding nosocomial infection among staff nurses working in intensive care units of selected hospital.

Keywords: Knowledge, Attitudes, infection prevention and control

1. Introduction

Good health depends in a part on a safe environment. Clients in all health settings are at risk for acquiring infections because of lower resistance to infectious micro-organisms, increased

Exposure to numbers and types of disease causing micro-organisms and invasive procedures. Nosocomial infection result from delivery of health services in a health care facility [1]. Nosocomial infections are infections which are a result of treatment in a hospital or a health care service unit, but secondary to the patient's original condition. Infections are considered nosocomial if they first appear 48 hours or more after hospital admission or within 30 days after discharge [2].

Most of the causative organisms are present in the external environment of the patient and are introduced into the body through direct contact or through contaminated materials [3]. Infection is a painful fact of life and the chief cause of death. Even though the major infectious diseases are controlled still infections are the main cause for disability and mortality. It is no surprise then, that a fear of infection is deeply rooted in the human consciousness [4].

In developed countries, about 5 to 10% of patients admitted to acute care hospitals acquire an infection which was not present or incubating on admission. The rate for developed countries can exceed 25% and high as 40% or more in developing countries. Such hospital-acquired or Nosocomial, infection add to the morbidity, mortality and cost expected from the patients' underlying diseases alone and infection control is the responsibility of all health care professionals. Hospital acquired infections can be arrested or prevented only when the health care providers have adequate knowledge regarding infection control protocols [5]. Nurse plays a critical role in preventing and controlling infectious disease. Nurses participate significantly in the prevention process from the initial introduction to nursing care. Microbiology and other science courses provide background information about pathogenic organizations transfer of these scientific principles to the applied art and science of nursing involves an awareness of the dynamics of the infectious process [6].

Statement of problem

A study to assess knowledge & attitude regarding nosocomial infection among staff nurses working in intensive care units of selected hospital at vijayapura.

Objectives of the study

1. To assess the knowledge of staff nurses regarding nosocomial infection as measured by structured knowledge questionnaires.
2. To determine the attitude of staff nurses regarding nosocomial infection by lickert scale.
3. To find out the co-relation between knowledge & attitude scores.
4. To find out the association between knowledge scores with selected demographic variables.
5. To find out the association between attitude scores with selected demographic variables

Hypotheses

It will be tested at 0.05 level of significance

- H1: The mean post test knowledge score of staff nurses in ICU significantly than mean pre-test knowledge scores regarding nosocomial infection.
- H2: there will be a significant association between pre test & post test knowledge. Score of staff nurses about nosocomial infection with selected demographic variables.

- H3: There will be a significant association between pre test & post test attitude score of staff nurses in ICU's regarding nosocomial infections with selected demographic variables.

2. Material and Methods

Source of data: In this study the data will be collected from Staff nurses working in selected hospitals.

Research design: Pre experimental one group pre-test-posttest design was adopted for the study.

Setting of the study: This study has been conducted at selected Hospitals of Vijayapur

Population: Population includes Staff nurses at selected Hospitals of Vijayapur

Sample: In this study, staff nurses working in hospitals, who fulfill the sampling criteria was selected as sample.

Sampling method: In this study convenient sampling technique was used

Sample size: The sample size of this study is 50 staff nurses working in selected hospitals of Vijayapur.

2.1 Sampling Criteria

2.1.1 Inclusion criteria

1. Registered nurse working in Hospital.
2. GNM, P C B Sc and B.Sc. qualified nurses.
3. Nurses involved in direct patient care.

2.2.3 Exclusion criteria

1. Nurses who are not present at the time of my study.
2. Nurses who had previous learning experience of infection control measures.
3. Nurses who are in supervisory category

2.2.4 Method of Data Collection:

- Data collection is planned through the structure questionnaire on prevention of nosocomial infection.
- The questionnaire will consist three parts they are:
- **Part A** – Demographic variables of staff nurses like age, experience, education.
- **Part B** – Structured questionnaire on knowledge of staff nurses on prevention of nosocomial infection.
- **Part C** – Lickert scale to assess the attitude of the staff nurse.

3. Results

Section 1: Analysis of the Demographic Variables of the Respondents N=50

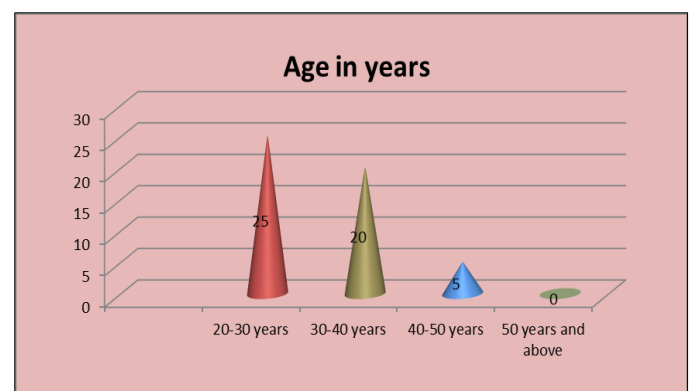


Fig 1: Diagram showing the distribution of respondents according to their age

The above diagram shows the distribution of respondents according to age. In the group 50 % of respondents were in the age group of 20-30 years, 40% of respondents were in

the age group of 30-40 years and 10 % of respondents were in the age group of above 50 years. N=50

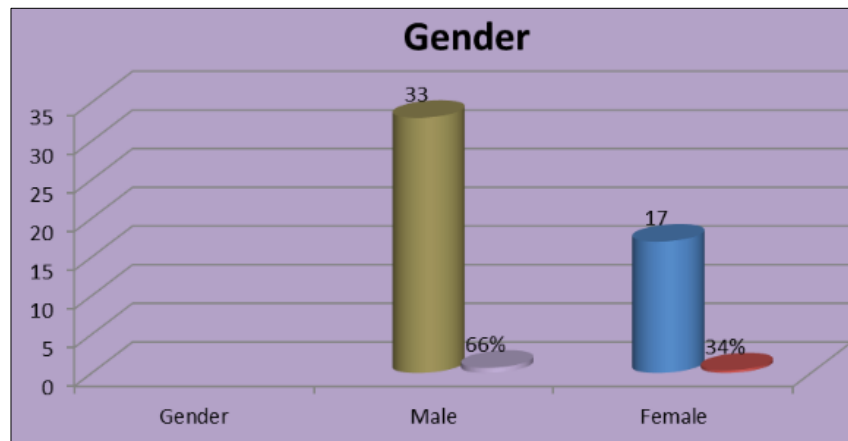


Fig 2: Diagram showing the distribution of respondents according to their Gender

The above diagram shows the distribution of respondents according to Gender. In the group 66 % of respondents were male, 34% of respondents were in female. N=50

Table 2: Pre and posttest attitude scores of staff nurses Attitude scores

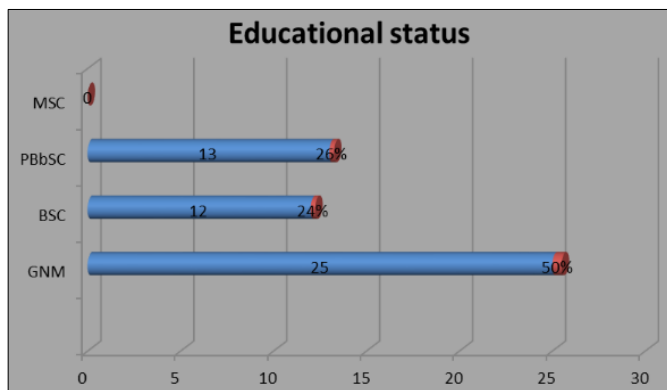


Fig 3: Diagram showing the distribution of respondents according to their Educational status.

The above diagram depicts the distribution of respondent’s according to their educational status. In the group 50% of respondents had GNM level of education, 26% of respondents had PBBSC, N level of education, 24. % of respondents had BSC,N.

S. No	Level of attitude	Score	Attitude scores			
			Pre-tesst		Post-test	
			F	%	F	%
	Most favorable	73-95	0	0%	50	100%
	Favorable	49-72	45	90%	-----	-----
	Unfavorable	25-48	5	10%	-----	-----
	Most favorable	19-24	-----	-----	-----	-----
	Total	-----		100%	50	100%

Table 3: Mean, Standard deviation, SD Error of pre-test and post-test attitude scores Attitude score

Knowledge	Mean	Standard deviation	SD error of mean	Table value
Pre-test	53.7	4.36	0.616	T=36.36
Post-test	83.34	12.68	1.793	

The above table 3 depicts that the Pre and post Attitude value T-13.74 with standard deviation of 5.13 suggesting the respondent distribution around mean. Total mean percentage of knowledge score is found to be 31.95%. Mean percentage area wise were found to be in the aspect of psychological effects of cartoon 32.76%, physical effects of cartoon 32%, management of behavioral problems 31.76% and information regarding cartoon programme 31.25% respectively.

Table 1: Pre and posttest knowledge sources of the staff nurses regarding nosocomial infection Sources

S. No	Level of knowledge	Sources	Staff Nurse			
			Pre-test		Post-test	
			F	%	F	%
1	Poor	0-11	4	12.5%	0	-----
2	Average	12-22	46	87.5%	0	-----
3	Good	23-32	0	0%	50	100%
	Total		50	100%	50	100%

Table 1: Shows the frequency and percentage distribution of pretest and post test scores of the respondents. The above table reveals the distribution of respondents according to pretest & posttest level of knowledge majority 46% had Average knowledge In Pre Test & 50% had good knowledge and none of respondents had poor knowledge in posttest.

Table 4: Correlation of knowledge and attitude scores of staff nurses regarding nosocomial infection

Sample	Knowledge		Attitude		r =Value
Staff nurse	Mean (%)	SD	Mean (%)	SD	
	14.1	1.79	53.7	4.36	0.124

The table shows the mean of knowledge of staff nurses is 14.1% with SD 1.79.

The mean of attitude of staff nurses is 53.7% with SD 4.36. The correlation coefficient value of knowledge and attitude of staff is 0.124. It shows mild significant correlations. But it is not statistically significant because T,P value is 0.390918 at P<0.05.

Table 5: Association of knowledge score of staff nurses regarding nosocomial infection with selected demographic variables

S.NO	Demographic variables	Staff <m(14)	Nursrs >m(14)	X2 value	Table value	D.f	Ns/s
1	Age in years			0.322	7.83	3	Ns
	20-30 years	11	14				
	30-40 years	10	10				
	40-50 years	03	02				
	50 years & above	00	00				
2	Gender			0.014	3.84	1	NS
	Male	20	13				
	Female	10	7				
3	Educational status			1.398	7.82	3	Ns
	Gnm	12	13				
	Bsc	04	08				
	Pb.bsc	05	03				
	Msc	00	00				
4	Year of professional experience			1.062	7.82	3	Ns
	Less than 1 years	02	02				
	1-5 years	14	12				
	5-10 years	05	10				
	10 years & above	02	03				
5	Area of working			0.495	7.82	3	Ns
	Ccu	11	11				
	Nicu	03	06				
	Picu	04	03				
	Sicu	06	06				
6	Undergone for any training			0.025	3.84	a	NS
	Yes	18	20				
	No	06	06				
7	Sources of information			0.0624	7.82	3	NS
	Through communication	10	14				
	Journals	01	02				
	Media	05	05				
	Co-workers	05	08				

Table 6: Association of attitude scores of staff nurses regarding prevention of nosocomial infection with their selected demographic variables

S.no	Demographic variables	<m(54)	>m(54)	X2 value	Table value	D.f	Ns or s
1	Age in groups			0.21	7.82	3	Ns
	20-30 years	12	13				
	30-40 years	10	10				
	40-50 years	02	03				
	50 years and above	00	00				
2	Gender			1.0004	3.84	1	Ns
	Male	13	20				
	Female	07	10				
3	Educational status			1.365	7.82	3	NS
	Gnm	13	12				
	Bsc	04	08				
	Pb.bsc	07	06				
	Msc	00	00				
4	Years of professional experience			0.164	7.82	3	NS
	Less than 1 years	02	02				
	1-5 years	12	14				
	5-10 years	07	08				
	10 Years and above	03	02				
5	Area of working			0.456	7.82	3	NS
	Ccu	10	12				
	Nicu	04	05				
	Picu	02	05				
	Sicu	06	06				
6	Undergone any training			0.0007	3.84	1	NS
	Yes	16	22				
	No	05	07				
7	Sources of communication			0.5502	7.82	3	NS
	Through communication	14	10				
	Journals	02	01				
	Media	04	06				
	Co-workers	08	05				

4. Recommendations

Based on the study findings, the following recommendations were made for further study,

- Study can be replicated on large sample to generalize the findings
- A correlation study can be done between knowledge & attitude regarding in critical care units staffs.
- A study can be done to evaluate the structured teaching programme regarding nosocomial infections.
- An interventional study can be conducted with control group

5. Conclusion

Based on the findings of the current study, it can be concluded that, despite performing well in knowledge, Attitude and showing a positive attitude towards infection prevention and control, nurses had unsatisfactory practice levels regarding infection prevention and control, exposing the patients to infection-related diseases. Recommendations: Strengthening infection prevention and control practice through regular in-service training/workshop; ensure that members of staff receive appropriate vaccinations regarding infection prevention and control; ensure that resources, e.g. personal protective equipment are available all the time; observing nurses' practices (hand hygiene auditing and during invasive procedures) and provide feedback. Furthermore, research about the barriers in infection prevention and control practices.

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