

Knowledge and Practice regarding Infection Control among Nurses in a Private Hospital of Lalitpur

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Background with aims/objectives: Infection control refers to the approach which is scientifically based on the prevention of the patients, health workers working in the hospital from the infection by following the infection prevention guidelines. The objective of the study was to assess the level of knowledge and practice regarding infection control among nurses and association between level of knowledge and practice with the socio-demographic variables.

Methodology: Descriptive cross-sectional research design was adopted for the study with total sample of 173 nurses working in B&B Hospital, Lalitpur, who were selected by stratified random sampling technique. Data collection was done through self-administered technique using semi-structured questionnaire and practice was measured by asking questions (audit questionnaire). Data was analysed by using Statistical Package for Social Science Version 20.0., using descriptive and inferential statistics.

Findings: The study findings revealed that majority (62.4%) of the respondents had adequate knowledge and majority (71.1%) of the respondents had good practice regarding infection control. There was association between the level of knowledge and work experience ($p=0.035$) but no association with age, education status and training regarding infection control and there was no association between level of practice and age, educational status, working experience and training regarding infection control.

Conclusion: The study concludes that majority of the respondents had adequate knowledge and good practice regarding infection control. The study suggest the need for organizing regular training, monitoring, development and implementation of guideline to further more

improving the knowledge and practice of nurses for prevention of infection in the hospital.

Keywords: infection control, knowledge, nurses, practice.

Infection prevention is a process of placing barrier between susceptible host and the microorganisms and a major component of safe and high-quality service delivery at the facility level. Hence, Hospital Acquire Infections associated morbidity and mortality are preventable through infection prevention strategy like, proper hand hygiene.¹

Around the world, there is a serious issue with infection control, particularly in institutions that lack the necessary tools and knowledge of infection control procedures. Health care facilities frequently experience nosocomial infections. Infections spread by direct contact with infected objects, contaminated hands, and spoiled syringes in hospitals.²

As the infection control is very important in the hospital setting for the protection of patients as well as the health care workers working in the hospital for the treatment and early recovery of the patient, if the nurses have adequate knowledge and good practice regarding infection control then there may be minimum chances of getting hospital acquired infection and can reduce the number of hospital stay of patient. So this study aims to conduct study on knowledge and practice regarding

infection control among nurses in a private hospital of Lalitpur.

Methods

A descriptive, cross-sectional study design was adopted in accordance to IRC guideline of B&B Hospital. All the registered nurses of every department except nurses of outpatient department, in-charge and supervisors were included in the study.

Stratified Proportionate Sampling Technique was used. Content validity of the instrument was maintained by extensive review of literature by consultation with research advisor, research teachers, expertise in related field. Pretesting was done in 10% of the total sample in similar setting.

Sample size was calculated by using Solvin's formula, the final sample size was determined to be 173 with additional non response rate.

Self-administered questionnaire was prepared consisting 26 knowledge related and 20 practice related questionnaire and monitored by IRC. Data was reviewed,

coded, organized and entered into Microsoft Excel and transformed into Statistical Package for the Social Sciences version 20.0 program for the analysis. Inferential statistics i.e., Pearson’s chi-square test method and descriptive statistics i.e., frequency, percentage, mean, median and standard deviation was used to find out association between knowledge and practice regarding infection control and socio-demographic variables. The level of significance was set on less than 0.05.

Results

This study showed that, out of 173 respondents, more than half (54.3%) of the respondents were of age 25 years and below and Mean±SD was 25.55±2.326. Regarding level of education, majority (61.3%) of the respondents were PCL.

With regards to work experience, more than half (54.9%) of the respondents were <3 years. Similarly, more than half (52.6%) of the respondents were given training regarding Infection Control.

Level of knowledge	Frequency	Percent
Adequate Knowledge (≥32 mean score)	108	62.4
Inadequate Knowledge (<32 mean score)	65	37.6
Mean±SD= 32±4.05		
Total	173	100

Table 1: Respondent’s Level of Knowledge regarding Infection Control

Table 1 represents that out of 173 respondents, majority (62.4%) of the respondents had adequate knowledge and

about 37.6% of the respondents had inadequate knowledge regarding infection control.

Level of knowledge	Frequency	Percent
Good Practice(≥ 16 mean score)	123	71.1
Poor Practice(< 16 mean score)	50	28.9
Mean \pm SD= 16 \pm 1.55		
Total	173	100

Table 2: Respondent's Level of Practice regarding Infection Control

N=173

Variables	Level of Knowledge		χ^2 value	p-value
	Adequate	Inadequate		
Age in years				
≤ 25 years	55	39	1.347	0.246
26 years and above	53	26		
Educational Status				
PCL	64	42	0.491	0.484
BSN/PBNS	44	23		
Work Experience				
≤ 3 years	66	29	4.46	0.035*
> 3 years	42	36		
Training regarding Infection Control				
Yes	54	37	0.78	0.377
No	54	28		

*Significant level at p -value < 0.05 ; Pearson's Chi-square

Table 3: Association of Level of Knowledge regarding Infection Control with Age, Educational Status, Working Experience and Training regarding Infection Control

Variables	Level of Practice		χ ² value	p-value
	Good	Poor		
Age in years				
≤25 years	64	30	0.91	0.34
26 years and above	59	20		
Educational Status				
PCL	74	32	0.221	0.639
BSN/PBNS	49	18		
Work Experience				
≤3 years	68	27	0.024	0.878
>3 years	55	23		
Training regarding Infection Control				
Yes	67	24	0.597	0.44
No	56	26		

Significant level at p-value < 0.05; Pearson's Chi-square

Table 4: Association of Level of Practice regarding Infection Control with Age, Educational Status, Working Experience and Training regarding Infection Control

Scores	Knowledge	Practice	P-value*
Knowledge	1	0.121	0.114
Practice	0.121	1	

Significance level at P-value < 0.05; *Spearman correlation coefficient

Table 5: Relationship between Knowledge Score and Practice Score regarding Infection Control among Nurses

Table 2 represents that out of 173 respondents, majority (71.1%) of the respondents had good practice and about

28.9% of the respondents had poor practice regarding infection control.

Table 3 illustrates the association of level

of knowledge and socio-demographic variables where there was significance between level of knowledge and work experience but there was no significance between level of knowledge and age, level of education and training regarding infection control.

Table 4 illustrates the association of level of practice and socio-demographic variables where there was no significance between level of practice and age, level of education, work experience and training regarding infection control.

Table 5 represents that, there was no significant relationship between knowledge score and practice score regarding infection control among nurses.

Discussion

Our study illustrated that the level of Knowledge and Practice of respondents regarding Infection Control. Majority (62.4%) of the respondents had adequate knowledge. Turning into the respondent's practice this study illustrated that majority (71.1%) of the respondents had good practice regarding Infection Control.

In this study, more than half of the respondents were provided training regarding infection control and the infection control guidelines were available in hospital.

In contrast, study conducted in Dakahlia Governorate, Egypt; where out of 245 staff

nurses, most (85.3%) of staff nurses had unsatisfactory knowledge and majority (71.0%) of them had inadequate practice regarding infection control measures.³

In contrast, study done in Trinidad and Tobago; where out of 300 Health Care Workers, only 20.3% respondents were knowledgeable and 44% had good practices toward infection prevention.⁴ Likewise, the study carried out in Bir Hospital, Nepal; where out of 170 nurses, it showed that 57.1% of respondents had adequate knowledge and only 48.2% had good practice on infection prevention.⁵

The result of our study exhibits that statistically significant association of level of knowledge with work experience where p-value was 0.035 and no association with age, educational status, and training regarding infection control. There was also no association of level of practice with age, educational status, work experience, and training regarding infection control.

In contrast, the study conducted in Northwest Ethiopia showed that age, educational status, work experience, taking training and adherence on infection prevention and health facility factors were significantly associated with knowledge and practice of infection prevention.⁶

Conclusion

Majority of the nurses working at tertiary care centre have adequate knowledge and

good practice regarding Infection Control. Likewise, majority of the respondents have good practice and minority of the respondents have poor practice regarding Infection Control. There is association between level of knowledge and socio-demographic variables i.e. work experience but no association with age, educational status and training regarding infection control. There is no significant association between level of practice and socio-demographic variables. Some other factors may contribute to affect the level of knowledge and practice like modification of curriculum and advancement of practice.

The study findings suggest the following recommendations:

Organizing regular training and monitoring of nurses would furthermore help in improving the knowledge and practice of nurses in prevention of infection in the hospital.

Development and implementation of guidelines regarding infection control in hospital.

Availability and use of personal protective equipment in the hospital would be necessary to maintain standard precaution and reduce infection transmission.

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