

# The Effectiveness of Objective Structured Clinical Examination on Knowledge and Practice Regarding “Hand Washing Technique” among 1<sup>st</sup> Year B.SC Nursing Students

Pradhiba S. P. M.

Assistant Professor, KMCH College of Nursing, Coimbatore, India  
pradhiba3[at]gmail.com

**Abstract:** Hand hygiene in the health care setting is considered as an important infection control measure in the prevention of hospital acquired infections. The objective structured clinical examination is used to help students to gain confidence to use their skills in their clinical work. A pre experimental one group pre test post test study was conducted to assess the effectiveness of objective structured clinical examination on knowledge and practice regarding “Hand Washing Technique” among 1<sup>st</sup> year B.SC Nursing students in selected College of Nursing, Tamil Nadu. **Methods:** The sample size comprise of 30 students. Convenient sampling technique was used to select the samples. Knowledge questionnaire consist of 45 multiple choice questions and Observational checklist. **Results:** In comparison of pre-test and post-test level of knowledge pre test mean score was 20 with the standard deviation of 3.52 and post test mean score was 30 with the standard deviation 4.1 and t value is 2.604 which shows highly significant at  $p < 0.01$  level, thus stated that there would be a significant difference between pretest and post test level of knowledge among 1<sup>st</sup> year B.Sc nursing students was accepted. **Conclusion:** it was concluded that efforts are needed to improve the hand hygiene practices among nursing students.

**Keywords:** Objective structured clinical examination, Practice, Hand Washing, Hospital acquired infections

## 1. Introduction

### “Clean hands save lives”

Effective hand washing can lower the prevalence of health care associated infections. Unfortunately, compliance with the hand washing guidelines provided by the WHO is usually poor among health care workers and hand washing equipment is not upto standards. It is important therefore to instill the adequate knowledge and good practices at the time of primary training of the health care workers.

Previous use of hand hygiene techniques can go a long way in reducing cross transmission of microorganism, nasocomial infections, and risk of occupational exposure to infectious diseases.

The result of a study conducted by Post Graduate Institute of Medical Education and Research (PGIMER), New Delhi in 2014, had an overall healthcare associated infections prevalence of 8.78% with highest in ICU, 33% by paediatric wards and surgical wards 10.3%.

Liddle (2014) The objective structured clinical examination is used increasingly in nurse education to assess clinical skill proficiency at pre registration and post graduate level. Good preparation for an OSCE is vital for both those running the assessments and used effectively, OSCE help students to gain confidence to use their skills in their clinical work.

Therefore, we conducted a study to assess the knowledge and practice on hand washing techniques among nursing students.

## 2. Need for the study

Nurses constitute the largest percentage of the health care workers, (Buerhaus et al 2007), and they are the “Nucleus of the health care system” (Abualrub 2007) Because they spend more time with patients than any other health care workers. Their compliance with hand washing guidelines seems to be more vital in preventing the disease transmission among patients. Also during practices, student nurses who spend a long time with the patients and are in contact with them at most must be exceptionally sensitive.

Student nurses are receive the theoretical knowledge of hand washing in first year especially and apprehend the importance of hand washing, there for the students involved, in a continuous interaction with the patients during clinical practices are expected to wash their hands using correct method and in sufficient frequency. From this point of view, the study was to determine behaviors of the 1<sup>st</sup> year B.sc nursing students towards hand washing during clinical practice.

## 3. Objectives

To assess the pre test & post test level of knowledge and practice regarding handwashing technique among 1<sup>st</sup> year B.Sc nursing students.

To assess the effectiveness of objective structured clinical examination on knowledge and practice regarding hand washing technique among 1<sup>st</sup> year B.Sc nursing students.

- To associate the post test level of knowledge and practice regarding hand washing technique among 1<sup>st</sup> year B.Sc nursing students with the selected demographic variables .

**Hypothesis**

- There is a significant difference between pre-test and post-test level of knowledge and practice regarding hand washing technique among 1<sup>st</sup> year B.sc nursing students.
- There is a significant association between post-test level of knowledge and practice regarding hand washing technique with the selected demographic variables among 1<sup>st</sup> year B.sc nursing students.

**4. Methodology**

A pre experimental one group pre test post test design was used for this study. The sample size comprise of 30 students. Convenient sampling technique will be used to select the samples. Demographic variable, Knowledge questionnaire consist of 45 multiple choice questions, Observational checklist. The prior permission will be obtained from principal of college of nursing, Tamil Nadu. The investigator will select the sample through convenient sampling technique, oral consent will be obtained from the samples, the pre-test will be assessed by using knowledge questionnaire. Then OSCE was conducted by forming 3 stations to assess the knowledge and practice regarding Hand washing technique. Then the post-test will be assessed by using same questionnaire. Mean and standard deviation was used to determine the knowledge and practice regarding hand washing techniques. Chi-square test was used to analyze the association between post-test level of knowledge and practice regarding hand washing technique with their demographic variables. Independent ‘t’ test was used to assess the effectiveness of hand washing techniques among 1<sup>st</sup> year B.sc nursing students.

**Table 1:** Frequency and percentage distribution of pre-test level of knowledge regarding hand washing techniques among 1<sup>st</sup> year B.sc., nursing students

S. No	Level of Knowledge	Frequency	Percentage
	Pre Test		
1.	Inadequate knowledge	22	73.4%
2.	Moderate knowledge	8	26.6%
3.	Adequate knowledge	0	0%

**Table 2:** Frequency and percentage distribution of post-test level of knowledge regarding hand washing techniques among 1<sup>st</sup> year B.sc., nursing

S. No	Level of Knowledge	Frequency	Percentage
	Post Test		
1.	Inadequate knowledge	0	0%
2.	Moderate knowledge	22	73.4%
3.	Adequate knowledge	8	26.6%

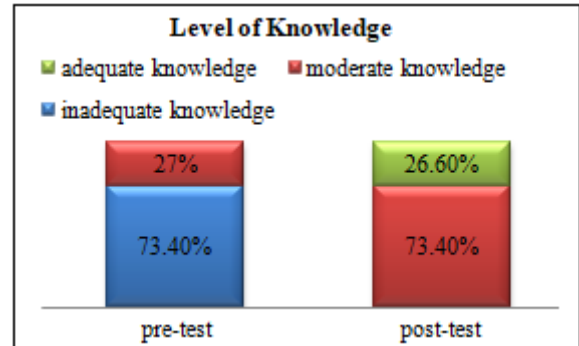
**Table 3:** Comparison of frequency and percentage distribution of pre- test and post- test level of knowledge regarding hand washing techniques among 1<sup>st</sup> year B.sc., nursing students

Assessment	Level of Knowledge					
	Inadequate		Moderate		Adequate	
	No.	%	No.	%	No.	%
Pre test	22	73.4	8	26.6	0	0
Post test	0	0%	22	73.4	8	26.6

**Table 4:** Comparison of mean and standard deviation of pre-test and post- test level of knowledge regarding hand washing techniques

Assessment	Mean (M)	Standard Deviation (SD)	Paired ‘t’ Test
Pre-test	20	3.52	t=2.60
Post test	30	4.1	

SS – Statistically significant, \*\*\*p<0.001



**Figure 1:** Frequency and Percentage distribution of pre-test and post-test level of knowledge among 1<sup>st</sup> year B.Sc nursing students

**5. Discussion**

The data collection was analyzed using descriptive and inferential statistics, the distribution of demographic variables among B.sc nursing 1<sup>st</sup> year students with respect to age of 2 (6.6%) had 19-20 years and 28 (93.3%) had 17-19 years, there is 6 (20%) male students and 24 (80%) of female students. Educational qualification of students 30 (100%) had HSLC, parent’s educational qualification is 10 (33.3%) had HSLC and 20 (66.6%) had SSLC, parent’s occupation 1(3.3%) had government job and 29 (96.6%) had private job, 14 (46.6%) had not exposure in medical unit and 16 (53.3%) had exposure in medical unit, there is 3 (10%) students are no trained in OSCE and 27 (90%) were previously trained in OSCE.

**The first objective was to assess the pre test and post test level of knowledge and practice regarding hand washing technique among B.sc nursing 1<sup>st</sup> year students.**

In pre-test none of them had adequate knowledge and 8 (26.6%) had moderately adequate knowledge and 22(73.3%) had inadequate knowledge.

In post-test none of them had inadequate knowledge and 8 (26.6%) had adequate knowledge and 22 (73.3%) had moderately adequate knowledge.

**The second objective was to assess the effectiveness of OSCE on knowledge and practice regarding hand washing technique among B .sc nursing 1<sup>st</sup> year students.**

In comparison of pre-test and post-test level of knowledge pre test mean score was 20 with the standard deviation of 3.52 and post test mean score was 30 with the standard deviation 4.1 and t value is 2.604 which shows highly significant at p<0.01 level , the analysis revealed that there was an increase in post test level of knowledge, thus indicates the study was effective.

### The third objective to associate the post test level of knowledge and practice regarding hand washing technique among B.sc nursing 1<sup>st</sup> year students with selected demographic variables.

There is significant relationship between age, sex, parent's education, parent's occupation, exposure in medical unit, and association with the selected demographic variable regarding hand washing technique among 1<sup>st</sup> year B.sc nursing students.

## 6. Conclusion

The present study was to assess the effectiveness of OSCE on knowledge and practice regarding hand washing technique among 1<sup>st</sup> year B.sc nursing students. The findings of this study shows that there was increased in the level of knowledge and practice regarding hand washing technique. Nursing colleges are highly encouraged to modify and enhance their curriculum in order to improve hand hygiene practices among nursing students. The improved understanding of infection control and hand hygiene among nursing students is expected to play a major role in curbing disease transmission when the students pass out and join the healthcare work force in future.

## 7. Recommendations

- 1) A similar study can be conducted by increasing the sample size.
- 2) The study can be conducted in various settings.
- 3) A comparative study can be conducted in assessing the knowledge among students.

## 8. Limitations

During the period of study the investigator feels comfortable for small size of sample.

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