



“A STUDY TO EVALUATE THE EFFECT OF PLANNED TEACHING PROGRAMME REGARDING VENTILATOR BUNDLE CARE ON KNOWLEDGE AND PRACTICE OF VENTILATOR ASSOCIATED PNEUMONIA AMONG STAFF NURSES WORKING IN SELECTED HOSPITALS OF AHMEDABAD CITY.”

1. Ms. Radha Bharatbhai (Author)

Master of Science in Nursing, Medical Surgical Nursing (Cardio Vascular And Thoracic Nursing), J.G. College of Nursing, Ahmedabad, Gujarat, India

2. Mrs. Chandrika Dharajiya (Co- Author)

Associate Professor, Medical Surgical Nursing, JG College of Nursing, Ahmedabad, Gujarat, India

3. Mrs. Swapna Suhas Kadukkat (Co- Author)

Associate Professor, Medical Surgical Nursing, JG College of Nursing, Ahmedabad, Gujarat, India

ABSTRACT

Background:

Ventilator Associated Pneumonia is the most common nosocomial infection, with the prevalence rates ranging from 10% to 70% in critical care units. It is the sub type of hospital acquired pneumonia with occurs in people who are on mechanical ventilation through an endotracheal on tracheostomy tube for more than 48 hours with reported incidence of 6-20 times higher in these patients. VAP is a major health care burden in terms of mortality increased in health care cost, increased length of ventilator days hospital stays with prolonged. It allows the nurses to red-flag areas may require more in-depth knowledge and practice regarding ventilator bundle care to prevent the Ventilator Associated Pneumonia.

Aims:

This study aims to evaluate the effect of planned teaching programme regarding ventilator bundle care on knowledge and practice of ventilator associated pneumonia among staff nurses working in selected hospitals of Ahmedabad city.

Objectives of the studies were:

1. To assess the pre-test level of knowledge & practice among staff nurses regarding Ventilator Bundle Care of Ventilator Associated Pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
2. To assess the post-test level of knowledge & practice among staff nurses regarding Ventilator Bundle Care of Ventilator Associated Pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
3. To evaluate the effect of planned teaching programme regarding ventilator bundle care on knowledge and practice of ventilator associated pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
4. To find out association between pre-test level of knowledge and practice regarding Ventilator Bundle Care of Ventilator Associated Pneumonia with selected demographic variables among staff nurses working in selected hospitals of Ahmedabad city.

Methodology:

Quantitative research approach was used with **Pre experimental (one group pre-test post-test)** research design. The investigator used non-probability convenience sampling technique for selecting 40 samples.

Result:

The demographic variable major findings are age, out 40 samples majority of the samples 72.5 % belonged to age group of 21 to 30 years, 67.5% female staff were participant, 62.5 % staff nurses are belongs to GNM Nursing, 62.5 % staff nurses are working in ICU, 42.5 % staff nurses have 1-5 years of working experience and 55% staff nurses are belonged to No any special training under gone before Ventilator Bundle Care. The mean Pre- test score was 15.37 and the mean post-test score was 22.53 with the mean difference of 7.16. The table also represents that the Standard deviation of Pre -test score was 3.47 and Standard deviation of post-test score was 2.80. It reveals that mean post-test knowledge score was significantly higher than mean Pre-test knowledge scores. The calculated 't' value was 16.22 and the tabulated 't' value was 2.02 at 0.05 level of significance.

The mean pre-test practice score was 44.82 and the mean of post-test practice score 59.98. The standard deviation of pre-test practice score was 6.64 and standard deviation of post-test practice score was 4.07. The calculated 't' value was 15.75 and tabulated 't' was 2.02 at 0.05 level of significance. Therefore, the null hypothesis H_0 was rejected and research hypothesis H_1 was accepted.

Association of the pre-test knowledge score was found significant with demographic variables such as **Age and Education qualification** and Association of the pre-test practice score was found significant with demographic variable is **Education qualification**.

Conclusion:

This indicates that the Planned Teaching Programme regarding Ventilator Bundle Care was effective in increasing knowledge and practice of Ventilator Associated Pneumonia among Staff Nurses Working in Selected Hospitals of Ahmedabad City.

Key Words:

Evaluate, Effect, Planned Teaching Programme, Ventilator Bundle Care (VBC), Knowledge, Practice, Ventilator Associated Pneumonia (VAP), Staff Nurses, Selected hospitals.

INTRODUCTION

In the medical field there are different types ventilators available. Mechanical ventilator is a common lifesaving intervention in the emergency department (ED) Mechanical ventilation is used to assist or replace spontaneous breathing. A ventilator as designed to move breathable air in and out of the lungs which helps in breathing for a patient who is physically unable to breath or breathing insufficiently. The drinker and show tank type ventilator of 1929 was one of the first negative-pressure machines widely used for mechanical ventilation. It is known as the iron lung. A vacuum pump fabricated a negative pressure up to the chamber which result in expansion of the patient chest. This change in geometry reduces the intra pulmonary pressure and allows the air into the patient's lung. When the vacuum is released, the negative pressure applied to the chest drops to zero and the elastic recoil of the chest and lungs are permitted for passive ventilation. Now a days most of the patients are provided with positive pressure ventilator.

Ventilator Associated Pneumonia is the most common nosocomial infection, with the prevalence rates ranging from 10% to 70% in critical care units. It is the sub type of hospital acquired pneumonia with occurs in people who are on mechanical ventilation through an endotracheal on tracheostomy tube for more than 48 hours with reported incidence of 6-20 times higher in these patients. VAP is a major health care burden in terms of mortality increased in health care cost, increased length of ventilator days hospital stays with prolonged. VAP leads to continuously to be a common and potentially 4 fatal complication of ventilator care. VAP can occur as an early onset or late onset. Patient with mechanical ventilation at early onset is more than 48 hours, more than 96 hours late on set VAP. Normal human being the major defence mechanism include anatomic airway barriers, cough reflexes, mucous and clearance. The ciliated mucosa of the upper respiratory tract has a major role in removing microbes that have gained access to the bronchial tree. Mucociliary clearance is a complex process, the integrity of which depends upon the composition of the airway secretions, an effective mucociliary reflex and effective cough.

Bacterial colonization can predispose a person with pre-existing comorbidities such as malnutrition, chronic COPD, poor oral hygiene, inadequate hand washing, and invasive procedure. Contact with other patients is all potential risk factors of VAP.

Pathophysiology is a medical discipline conditions typically observed during a disease state when perceived by patients. The main pathogenic factor in the development of VAP is biofilm formation with in the tracheal tube and micro aspirates of secretions. The present of ET tube interferes with the normal protective upper airway reflexes and prevents effective coughing. The oropharynx becomes rapidly colonized by aerobic gram-negative bacteria. These contaminated secretions pool above the ET cuff and slowly gain access to the lower airway through a fold in the wall of the cuff. A bacterial biofilm serves as noidus for infection and pursed into the distal airways by ventilator cycling.

Clinical features of patients with VAP gradual or sudden onset of the symptoms like dyspnea & signs such as fever, tachypnea, increased or purulent secretions, leucocytosis, rhonchi, crackles, reduced breath sounds, bronchospasm. Accurate diagnosis is important so that appropriate treatment can be instituted. Diagnosis on VAP needs a high clinical experience and bed side examination. Radiographic examination and microbiologic analysis of respiratory secretions, sampling methods.

Treatment indicates the management and care of patient to diseases or disorder. Treatment must be obtained quickly & treatment initiated without delay. Principles to apply when choosing appropriate therapy for VAP include knowledge of organisms likely to be present in CCU. The drug of choice for VAP is anti-pseudomonal Cephalosporins, anti-pseudomonal fluroquinolone, amikacin & vancomycin.

Ventilator Bundle Care refers to the nursing care which comprises of five or more components based on evidence & high-impact interventions, listed as below

- Hand washing (to prevent cross contamination)
- Raised head end of the bed at 30-to-45-degree angle (minimizes micro aspiration)
- Maintaining cuff pressure at 20-25 cm H₂O (minimizes micro aspiration).
- Subglottic suctioning (to minimizes the risk of aspiration)
- Oral care with chlorohexidine (minimizes micro aspiration)

- Peptic ulcer prophylaxis (minimizes complications and length of stay)
- Holding Daily sedation and readiness to extubate (decreases length of stay)
- Venous Thrombo-Embolic prophylaxis (minimizes complications and length of stay)

VAP is preventable and many practices have been demonstrated to reduce the incidence of VAP & its associated burden of illness. The occurrence of VAP is directly related to mal nursing practice, such as poor oral care, suctioning, improper equipment's, contaminated hands, lack of knowledge about signs and symptoms of VAP. Gaps between knowledge and actual clinical practice have not been sufficiently analysed the occurrence of VAP.

As there are many teaching strategies are available the hospitals which are practicing in doing planned teaching programme and showed the better response in terms of patient outcome and cost effectiveness, nurses gain adequate knowledge and skill will do better in their clinical performances, and in many circumstances, they do can implement evidence-based practice.

Objectives of the studies were

1. To assess the pre-test level of knowledge & practice among staff nurses regarding Ventilator Bundle Care of Ventilator Associated Pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
2. To assess the post-test level of knowledge & practice among staff nurses regarding Ventilator Bundle Care of Ventilator Associated Pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
3. To evaluate the effect of planned teaching programme regarding ventilator bundle care on knowledge and practice of ventilator associated pneumonia among staff nurses working in selected hospitals of Ahmedabad city.
4. To find out association between pre-test level of knowledge and practice regarding Ventilator Bundle Care of Ventilator Associated Pneumonia with selected demographic variables among staff nurses working in selected hospitals of Ahmedabad city.

Methodology for research

Quantitative research approach was used with **Pre experimental (one group pre-test post-test)** research design. The investigator used Non-probability convenience sampling technique for selecting 40 samples.

RESULT

According to Frequency and percentage wise distribution of samples based on demographic variables. There were sir demographic variables and 40 samples selected.

Table 4.1 Frequency and percentage wise distribution of samples based on demographic variables.

Sr.No	Demographic Variables	Frequency	Percentage (%)
1	Age in years		
	a) 21 to 30	29	72.5
	b) 31 to 40	9	22.5
	c) 41 to 50	1	2.5
	d) 51 to 60	1	2.5
2	Gender		
	a) Male	13	32.5
	b) Female	27	67.5
3	Education Qualification		
	a) M.Sc. Nursing	0	0
	b) B.Sc. Nursing	13	32.5
	c) P.B.B.SC. Nursing	2	5
	d) GNM Nursing	25	62.5

Sr.No	Demographic Variables	Frequency	Percentage (%)
4	Area of working Experience		
	a) ICU	25	62.5
	b) CCU	8	20
	c) SICU	5	12.5
	d) RICU	2	5
5	Total Years of Experience		
	a) <1 year	8	20
	b) 1-5 year	17	42.5
	c) 6-10 year	9	22.5
	d) >10 year	6	15
6	Any special training under gone before Ventilator Bundle Care		
	a) Yes	18	45
	b) No	22	55
	if yes, specify....		

Table 4.1: Shows the distribution of samples according to age group, the data shows that out of 40 samples 72.5 % belonged to age group of 21 to 30 years, 22.5% belonged to age group of 31 to 40 years, 2.5 % belonged to age group of 41 to 50 years, 2.5 % belonged to age group of 51 to 60 years. As regard to gender out of 40 samples 32.5 % belonged to male and 67.5% belonged to female. As regard to Education Qualification out of 40 samples 0 % belonged to M.Sc. Nursing, 32.5 % belonged to B.Sc. Nursing, 5 % belonged to P.B.B.SC. Nursing, 62.5 % belonged to GNM Nursing. As regard to Area of working Experience out of 40 samples 62.5 % belonged to ICU, 20 % belonged to CCU, 12.5 % belonged to SICU, 5 % belonged to RICU. As regard to Total Years of Experience out of 40 samples 20 % belonged to <1 year, 42.5 % belonged to 1-5 year, 22.5 % belonged to 6-10 year, 15 % belonged to >10 year. As regard to Any special training under gone before Ventilator Bundle Care out of 40 samples 45 % belonged to Yes and 55% belonged to No.

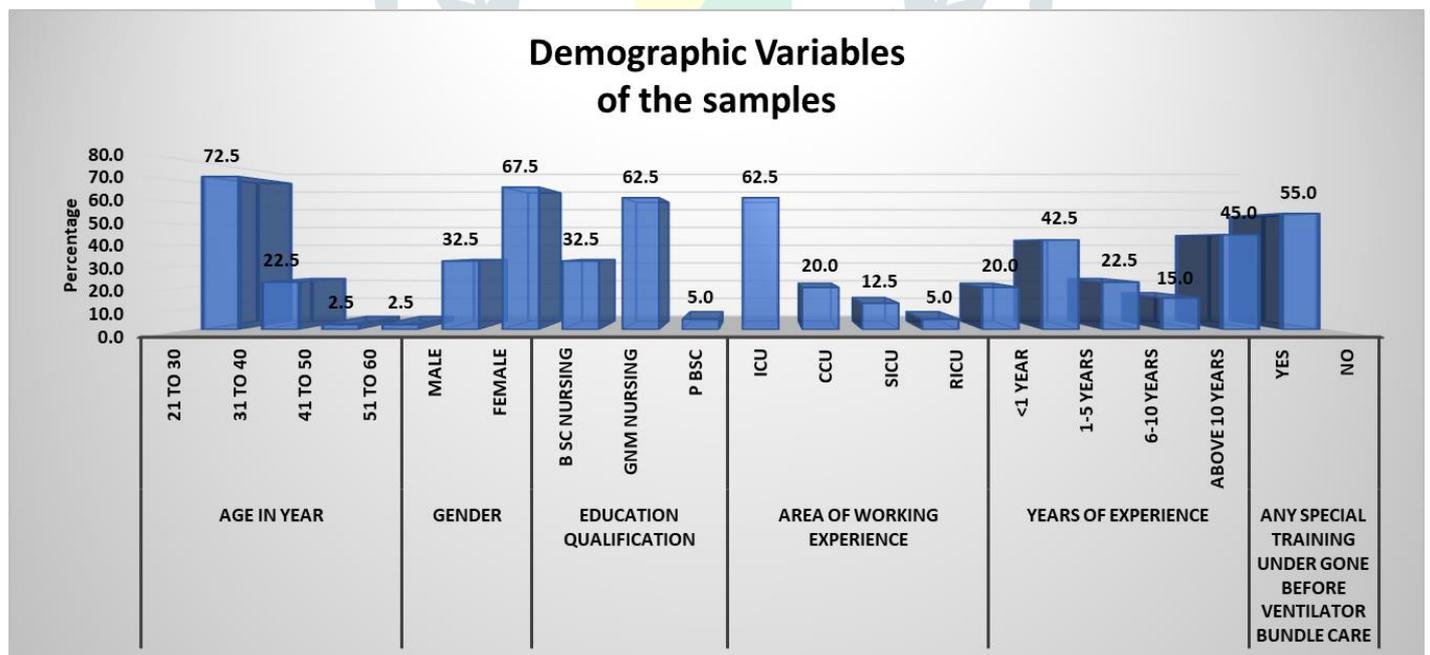


Figure: 5 Bar graph showing Percentage wise distribution of demographic variables of the samples.

Table 4.2.1 Frequency and percentage distribution of pre-test and post- test level of knowledge score using structured knowledge questionnaire regarding ventilator bundle care among staff nurses.

LEVEL OF KNOWLEDGE	PRE- TEST		POST- TEST	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (1-7)	3	7.5	0	0
Average (8-14)	13	33.5	0	0
Good (15-21)	22	55	16	40
Very Good (22-30)	2	5	24	60
TOTAL	40	100	40	100

Table 4.2.1: shows that Pre-test Knowledge score of out of 40 samples, 3(7.5%) had Poor knowledge, 13 (32.5%) had average knowledge, 22 (55%) had good knowledge and 2 (5%) had very good knowledge. Most of samples comes under good category. After the intervention of Planned Teaching Programme, 0 (%) had Poor knowledge, 0 (%) had average knowledge, 16 (40%) had good knowledge and 24 (60%) had very good knowledge. Most of samples comes under very good category.

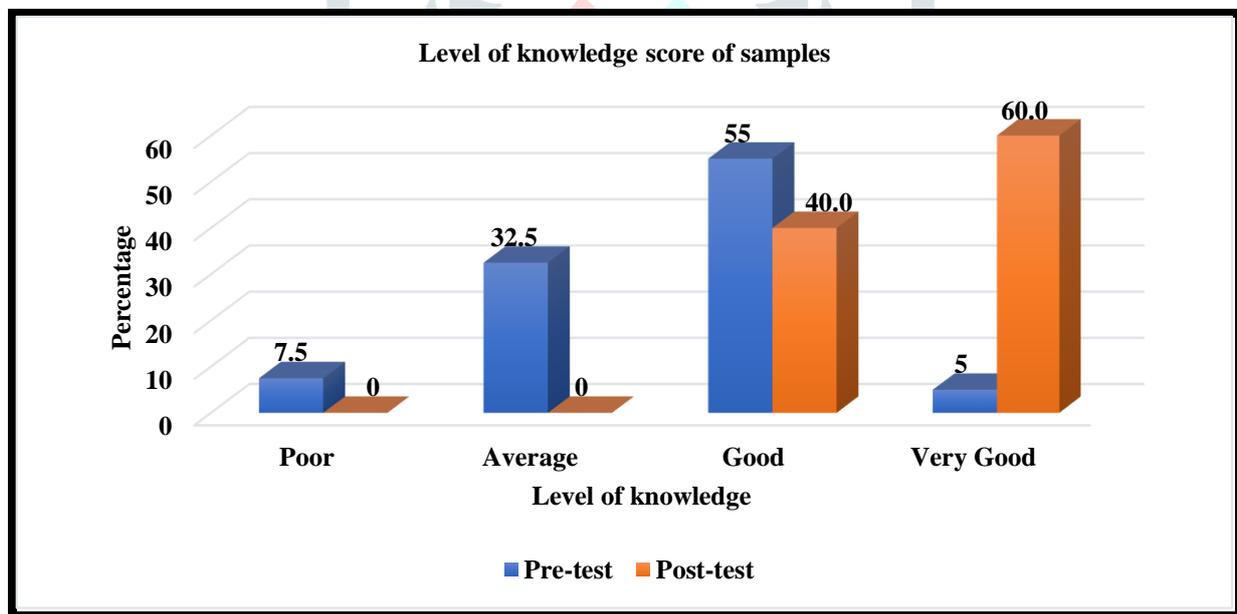


Figure 6: Bar graph showing percentage of pre-test and post-test level of knowledge of the staff nurses.

Table 4.2.2 Area wise Mean, Mean Percentage and Percentage Gain of Pre-test and Post-test knowledge score using Structured Knowledge Questionnaire regarding ventilator bundle care.

Sr. No.	Area of Content	Max. Score	Pre-test			Post-test			Mean Difference	Gain (%)
			Mean score	SD	Mean (%)	Mean score	SD	Mean (%)		
1	Anatomy and physiology of pulmonary system	4	1.93	0.94	48.13	3.40	0.71	85.00	1.48	36.88
2	Mechanical ventilator	5	2.83	1.06	56.6	3.97	0.83	79.40	1.14	22.80
3	Ventilator associated pneumonia	8	4.48	1.26	56.00	6.18	1.08	77.25	1.70	21.25
4	Ventilator bundle care components	13	6.33	1.91	48.69	8.97	2.04	69.00	2.64	20.31
TOTAL		30	15.37	3.47	51.23	22.53	2.80	75.10	7.16	23.87

Table 4.2.2: Shows the comparison between pre- test and post- test knowledge score obtained by sample. The mean score, mean percentage, mean difference and mean percentage gain in each area were computed. The data presented in above table shows the area wise distribution of pre-test and post-test knowledge score of the samples. The mean and mean percentage of pre-test knowledge score of samples as per area was Anatomy and physiology of pulmonary system **1.93 (48.13%)**, Mechanical ventilator **2.83 (56.60%)**, Ventilator associated pneumonia **4.48 (56%)**, Ventilator bundle care components **6.33 (48.69%)**. The mean and mean percentage of post-test knowledge score of samples as per area was Anatomy and physiology of pulmonary system **3.40 (85%)**, Mechanical ventilator **3.97 (79.40%)**, Ventilator associated pneumonia **6.18 (77.25%)**, Ventilator bundle care components **8.97 (69 %)**.The data further indicates that the post- test mean percentage scores in all content areas were higher than the pre- test mean percentage knowledge score. The investigator concluded that there was significance increase in the mean post-test knowledge score as compared to mean pre- test knowledge score in all areas after administration Planned Teaching Programme regarding ventilator bundle care.

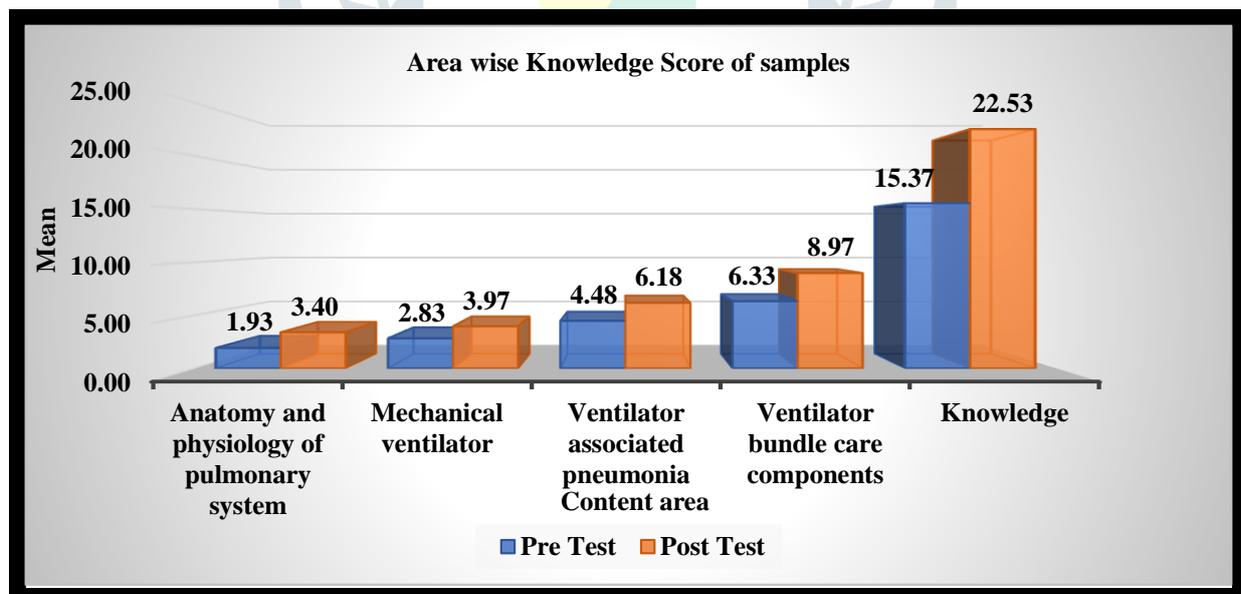
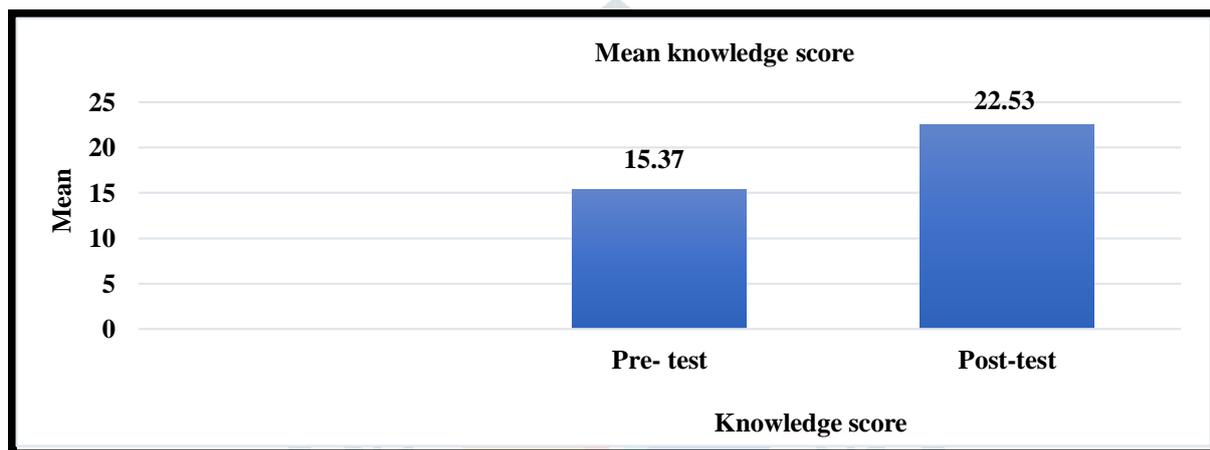


Figure 7: Bar graph showing area wise comparison of mean pre-test and mean post- test knowledge score of staff Nurses.

Table 4.2.3 Mean, Mean Difference, Standard Deviation (SD) and 't' Test Value of Pre- test and Post-test knowledge score of staff nurses:

Knowledge	Mean	Mean difference	SD	Calculate d 't' value	DF	Table 't' value	S/NS
Pre- test	15.37	7.16	3.47	16.22	39	2.02	S
Post-test	22.53		2.80				

Table 4.2.3: Shows the comparison between Mean Pre- test and Post-test knowledge score of staff nurses. The mean pre-test score was **15.37** and the mean post- test score was **22.53** with the mean difference of **7.16**. The table also represents that the Standard deviation of Pre-test score was **3.47** and Standard deviation of post-test score was **2.80**. It reveals that mean post-test knowledge score was significantly higher than mean Pre-test knowledge scores. This indicates that difference obtained in the mean pre-test of structured knowledge questionnaire scores and mean post-test of structured knowledge questionnaire score was a real difference and not by chance. The calculated 't' value was **16.22** and the tabulated 't' value was **2.02** at **0.05** level of significance. Therefore, the null hypothesis **H₀** was rejected and research hypothesis **H₁** was accepted. It revealed that structured knowledge questionnaire regarding ventilator bundle care was effective in improving knowledge among the staff nurses. Investigator concluded that there was significant increase in them the post-test knowledge score as compared to the mean pre-test knowledge score after Planned Teaching-Programme.

**Figure 8: Bar graph showing comparison between Mean Pre- test and Post-test knowledge score of staff nurses.****Table 4.3.1 Frequency and percentage wise distribution of pre-test and post- test level of practice score using structured observational checklist regarding ventilator bundle care among staff nurses.**

LEVEL OF PRACTICE	PRE- TEST		POST- TEST	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (1-27)	0	0	0	0
Average (28-53)	36	90	3	7.5
Good (54-80)	4	10	37	92.5
TOTAL	40	100	40	100

Table 4.3.1: shows that pre- test practice score of out of **40** samples, **0 (0 %)** had Poor practice, **36 (90%)** had average practice, **4 (10 %)** had good practice. Most of samples comes under average category. After the intervention of Planned Teaching Programme, **0 (0%)** had poor practice, **3 (7.5 %)** had average practice, **37 (92.5)** had good practice. Most of samples comes under good category.

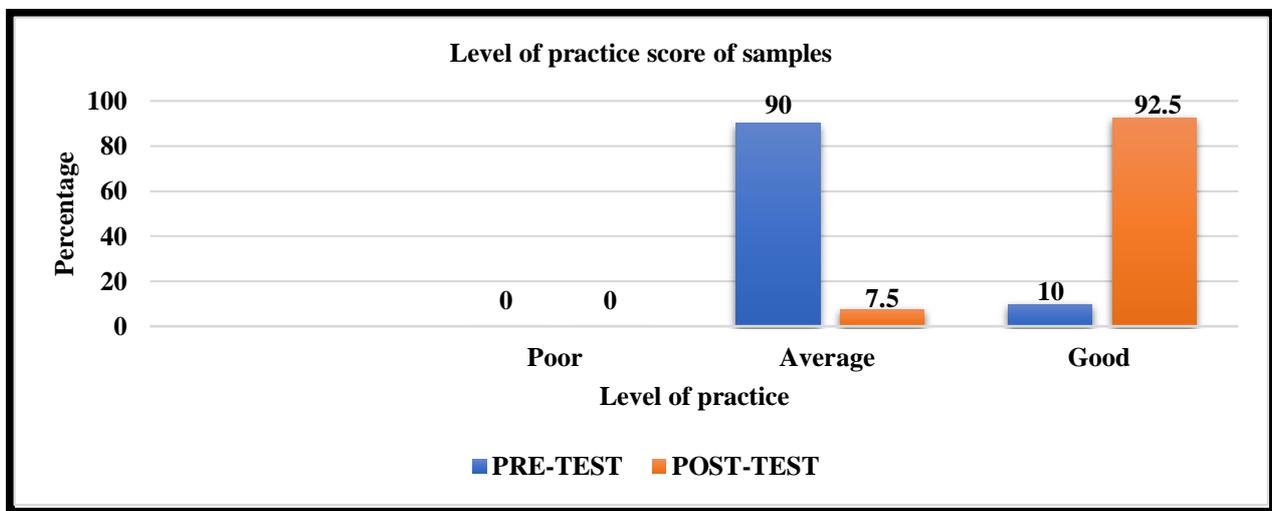


Figure 9: Bar graph showing percentage of pre-test and post-test level Practice of score of the staff nurse.

Table 4.3.2 Area wise Mean, Mean Percentage and Percentage gain of Pre-test and Post-test practice score using Structured observation checklist Score regarding ventilator bundle care among staff nurses.

Sr. No	Area of Content	Max. Score	Pre-test			Post-test			Mean Difference	Gain (%)
			Mean score	SD	Mean (%)	Mean score	SD	Mean (%)		
1	Hand Hygiene	6	1.1	0.55	18.33	2.87	0.56	47.83	1.77	29.5
2	Positioning	2	1.75	0.44	87.5	2	0	100	0.25	12.5
3	Oral Care	16	7.25	3.06	45.31	11.62	1.42	72.63	4.37	27.31
4	Cuff Pressure	2	1.73	0.51	86.5	1.93	0.27	96.5	0.2	10
5	Subgloting Suctioning	28	19.85	2.05	70.89	23.12	1.41	82.57	3.27	11.68
6	Deep Vein Thrombosis	10	5.32	1.96	53.2	7.12	1.41	71.2	1.8	18
7	Sedation Vacation	8	2.82	2.22	35.25	5	1.17	62.5	2.18	27.25
8	Stress Ulcer Prophylaxis	8	4.22	0.47	52.75	6.3	0.85	78.75	2.08	26
TOTAL		80	44.82	6.64	56.03	59.98	4.07	74.98	15.16	18.95

Table 4.3.2: Shows the comparison between pre- test and post- test practice score obtained by sample. The mean score, mean percentage, mean difference and mean percentage gain in each area were computed. The data presented in above table shows the area wise distribution of pre-test and post-test practice score of the samples. The mean and mean percentage of pre-test practice score of samples as per area was Hand Hygiene 1.10 (18.33%), Positioning 1.75 (87.50%), Oral Care 7.25 (45.31%), Cuff Pressure 1.73 (86.50%), Subgloting Suctioning 19.85 (70.89%), Deep Vein Thrombosis 5.32 (53.20%), Sedation Vacation 2.82 (35.25%), Stress Ulcer Prophylaxis 4.22 (52.75%). The mean and mean percentage of post-test practice score of samples as per area was Hand Hygiene 2.87 (47.83%), Positioning 2.00 (100%), Oral Care 11.62 (72.63%), Cuff Pressure 1.93 (96.50%), Subgloting Suctioning 23.12 (82.57%), Deep Vein Thrombosis 7.12 (71.20%), Sedation Vacation 5.00 (62.50%), Stress Ulcer Prophylaxis 6.30 (78.75%). The data further indicates that the post- test mean percentage scores in all content areas were higher than the pre- test mean percentage practice score. The investigator concluded that there was significance increase in the mean post-test practice score as compared to mean pre- test knowledge score in all areas after administration Planned Teaching Programme regarding ventilator bundle care.

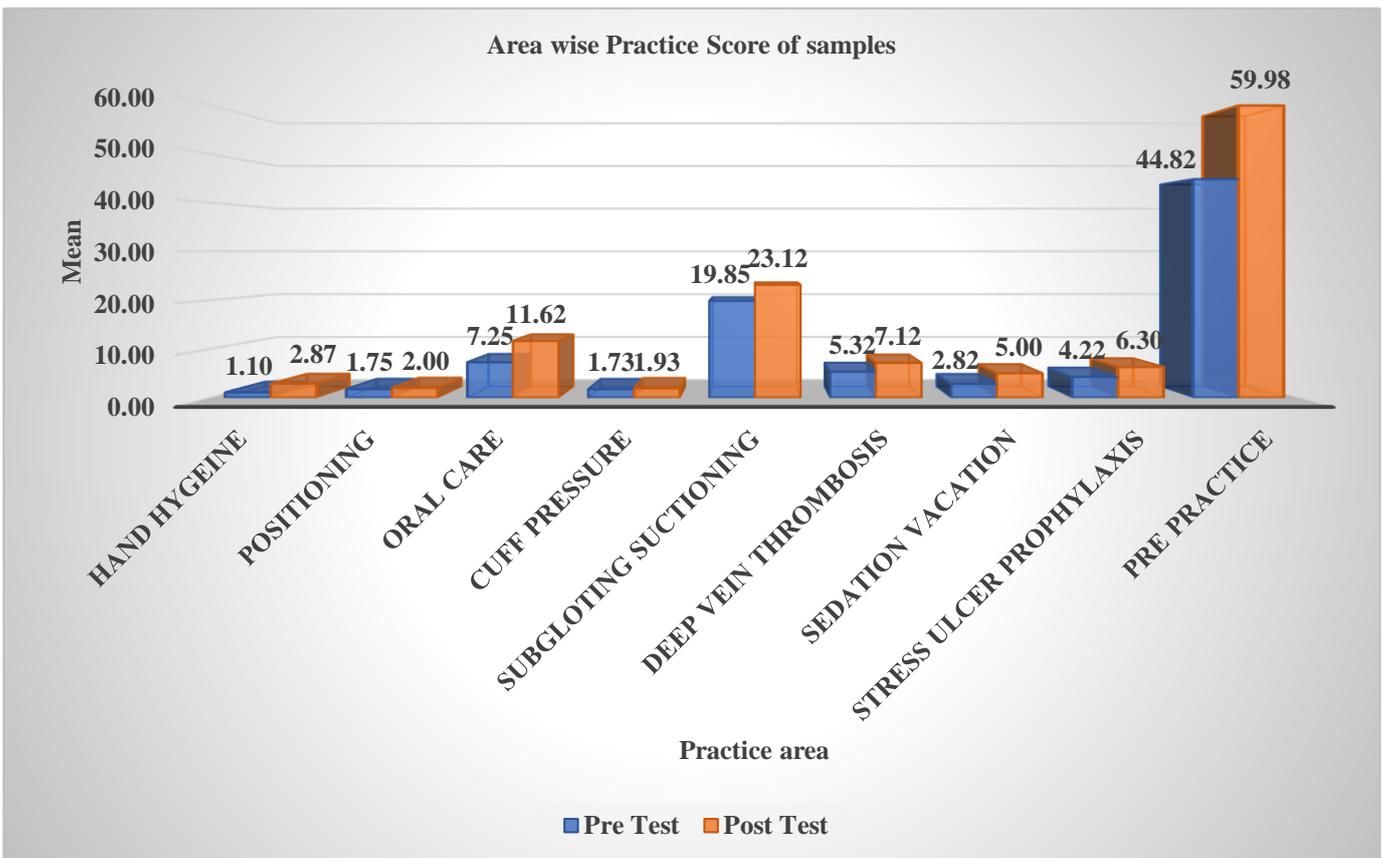


Figure 10: Bar graph showing area wise comparison between pre- test and post- test practice score of the staff nurses.

Table 4.3.3 Mean, Mean Difference, Standard Deviation (SD) and ‘t’ Test Value of Pre- test and Post-test practice score of staff nurses.

Practice score	Mean	Mean difference	SD	Calculated ‘t’ value	DF	Table ‘t’ value	S/NS
Pre- test	44.82	15.16	6.64	15.75	39	2.02	S
Post-test	59.98		4.07				

Table 4.3.3: Shows the comparison between Mean Pre- test and Post-test practice score of staff nurses. The mean pre- test score was 44.82 and the mean post- test score was 59.98 with the mean difference of 15.16. The table also represents that the Standard deviation of Pre-test score was 6.64 and Standard deviation of post-test score was 4.07. It reveals that mean post-test practice score was significantly higher than mean Pre-test practice scores. This indicates that difference obtained in the mean pre-test of structured observation check list scores and mean post-test of structured observation check list score was a real difference and not by chance. The calculated 't' value was 15.75 and the tabulated 't' value was 2.02 at 0.05 level of significance. Therefore, the null hypothesis H_0 was rejected and research hypothesis H_1 was accepted. It revealed that planned teaching programme regarding ventilator bundle care was effective in improving practice among the staff nurses. Investigator concluded that there was significant increase in them the post-test practice score as compared to the mean pre-test practice score after Planned Teaching-Programme.

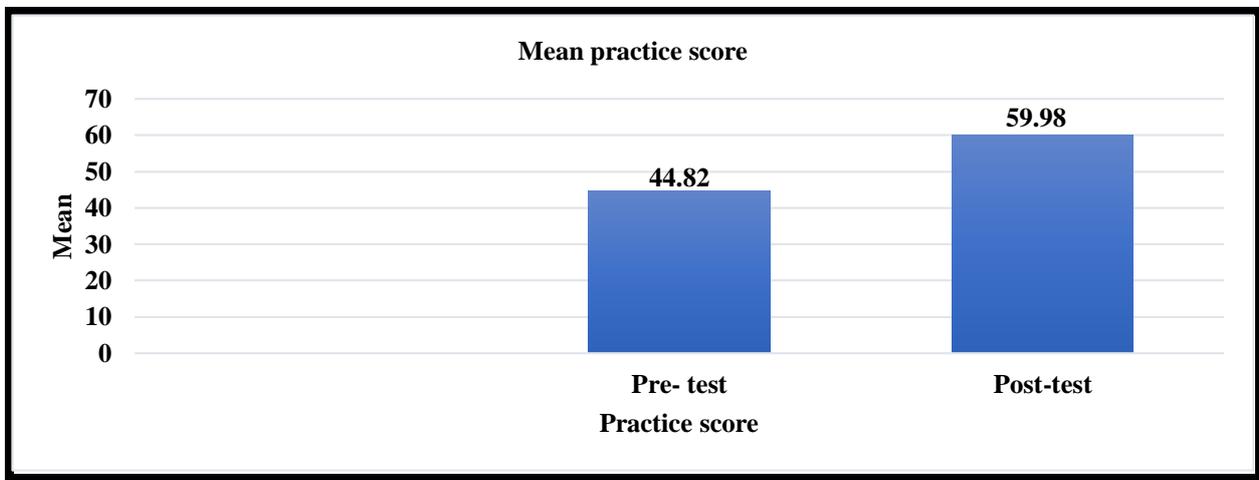


Figure 11: Bar graph showing comparison between Mean Pre- test and Post-test practice score of staff nurses.

Table 4.4.1 Analysis and interpretation of the data related to association between pre-test level of knowledge score with selected demographic variables.

Sr. No.	Demographic variables		Pre- test Knowledge				Total	Chi Square	DF	DF Table Value	S/N S	
			Poor Knowledge	Average Knowledge	Good Knowledge	Very Good Knowledge						
1	Age in year	21 to 30	2	7	18	2	29	19.388	9	16.91	S	
		31 to 40	0	6	3	0						9
		41 to 50	0	0	1	0						1
		51 to 60	1	0	0	0						1
2	Gender	Male	0	5	7	1	13	1.939	3	7.82	NS	
		Female	3	8	15	1						27
3	Education Qualification	B Sc Nursing	2	0	10	1	13	12.699	6	12.59	S	
		PBBS Nursing	0	0	2	0						2
		GNM Nursing	1	13	10	1						25
4	Area of working Experience	ICU	1	13	10	1	25	8.001	9	16.91	NS	
		CCU	2	1	4	1						8
		SICU	0	1	4	0						5
		RICU	0	1	1	0						2
5	Years of Experience	<1 years	1	3	4	0	8	6.351	9	16.91	NS	
		1-5 years	1	3	11	2						17
		6-10 years	1	4	4	0						9
		Above 10 years	0	3	3	0						6
6	Any special training under gone before Ventilator Bundle Care	Yes	1	7	10	0	18	2.214	3	7.82	NS	
		No	2	6	12	2						22

Regarding Age group with the Pre-test knowledge scores the calculated value of chi-square **19.388** and it was more than table value **16.91** of chi-square at **9** degree of freedom and **0.05** significant. Hence, Age had significant association with the pre-test knowledge score of the sample. Regarding education qualification of the sample with the Pre-test knowledge scores the calculated value of chi-square **12.669** and it was more than table value **12.59** of chi-square at **6** degree of freedom and **0.05** significant. Hence, education qualification had significant association with the pre- test knowledge score of the sample. This

Indicated that selected demographic variables, **Age** and **Education qualification** had significant association with pre- test knowledge score among the sample so research hypothesis H_2 was accepted and null hypothesis is H_0 was rejected.

Table 4.4.2 Analysis and interpretation of the data related to association between pre-test level of practice score with selected demographic variables.

Sr. No.	Demographic variables		Pre Practice		Total	Chi Square	DF	DF Table Value	S/NS
			Average Practice	Good Practice					
1	Age in year	21 to 30	26	3	29	0.238	3	7.82	NS
		31 to 40	8	1	9				
		41 to 50	1	0	1				
		51 to 60	1	0	1				
2	Gender	Male	10	3	13	3.659	1	3.84	NS
		Female	26	1	27				
3	Education Qualification	B Sc Nursing	13	0	13	19.556	2	5.99	S
		PBBS Nursing	0	2	2				
		GNM Nursing	23	2	25				
4	Area of working Experience	ICU	22	3	25	0.944	3	7.82	NS
		CCU	7	1	8				
		SICU	5	0	5				
		RICU	2	0	2				
5	Years of Experience	<1 years	7	1	8	5.005	3	7.82	NS
		1-5 years	16	1	17				
		6-10 years	9	0	9				
		>10 years	4	2	6				
6	Any special training under gone before Ventilator Bundle Care	Yes	15	3	18	1.616	1	3.84	NS
		No	21	1	22				

Regarding education qualification of the sample with the Pre-test practice scores the calculated value of chi-square **19.556** and it was more than table value **5.99** of chi-square at **2** degree of freedom and **0.05** significant. Hence, education qualification had significant association with the pre- test practice score of the sample. This Indicated that selected demographic variables, **Education qualification** had significant association with pre- test practice score among the sample so research hypothesis H_2 was accepted and null hypothesis is H_0 was rejected.

CONCLUSION

This study reports the effect of planned teaching programme regarding ventilator bundle care on knowledge and practice of ventilator associated pneumonia among staff nurses working in selected hospitals of Ahmedabad city. Planned teaching programme was administered regarding to ventilator bundle care of ventilator associated pneumonia. Then after 7th day of pre-test, post- test was conducted using the same structured knowledge questionnaire and observational checklist. The descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (t-test) were used to analyze the data and to test the study hypothesis. This indicates that the Planned Teaching Programme regarding Ventilator Bundle Care was effective in increasing knowledge and practice of Ventilator Associated Pneumonia among Staff Nurses Working in Selected Hospitals of Ahmedabad City.

Ethics declarations

Ethics approval and consent to participate.

Consent for publication

Written consent for publication as obtained from each participant.

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