"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING VENTILATOR ASSOCIATED EVENTS AMONG NURSING STUDENTS IN SELECTED COLLEGES OF NAVI MUMBAI."

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Abstract

Ventilator associated pneumonia can be made-up Hospital Acquired Pneumonia; however, in such cases, the patient has been endotracheally intubated and has received mechanical ventilatory support for at least 48 hours. accounts for 25% of the infections taking place in critically ill patients Methodology: Sample size is 159 (81 study group & 78 control group), Sample taken TYBSc nursing students. In this study TYBSc nursing students between the ages of 19-22 years of age nursing students in selected nursing colleges of Navi Mumbai was the accessible population. Investigator adopted Probability simple random sampling - lottery method (blind draw), for this study. Description of the tool: A self-administered structured questionnaire was prepared to determine the knowledge regarding ventilator associated events which consisted two sections: A self-administered structured knowledge questionnaire was validated by nineteen experts. Reliability of the tool was checked. Reliability score was 0.81 which suggests tool was reliable. Result: Ventilator associated pneumonia lack of knowledge found in student nurses. The researcher conducted a study to assess effectiveness of structured teaching program on knowledge regarding ventilator associated events among nursing students in selected colleges of Navi Mumbai. Overall, all students' nurses having lack of knowledge. In pre-test 55 & 26 having poor and average knowledge respectively, in post-test 7, 36 & 38 having poor, average and good knowledge respectively in study group. In pre-test 45 and 33 having poor and average knowledge, the post-test 46 and 32 having poor and average knowledge in control group. The mean pre-test score is 10.04 & 10.72 respectively in study and control group, the mean post test score is 20.78 & 10.78 respectively in study and control group. From the above graph its clearly evident that the mean post score is increased to 20.78 from 10.04, shows the effectiveness of structured teaching programme. In study group the mean of pre-test knowledge is 10.24 and standard deviation is 3.72, mean of post-test knowledge is 20.78 and standard deviation is 5.86 respectively. Since the p-value is less than 0.05 there is a significant difference in pre-test and post-test knowledge level after structured teaching programme. In control group the mean of pre-test knowledge is 10.72 and standard deviation is 2.92, mean of post-test knowledge is 10.78 and standard deviation is 2.567respectively. Conclusion The finding of study reveals that structured teaching programme is very much effective in improving the knowledge of students regarding ventilator associated events.

Keywords: Structure teaching programme on ventilator associated events, self-structure knowledge questionnaire, TYBSc nursing students.

INTRODUCTION

Ventilator associated pneumonia can be made-up Hospital Acquired Pneumonia; however, in such cases, the patient has been endotracheally intubated and has received mechanical ventilatory support for at least 48 hours. accounts for 25% of the infections taking place in critically ill patients (Ashraf & Ostrosky-Zeichner, 2012)1.

It contributes suggestively to the morbidity and mortality of ICU patients, with a predictable attributable mortality rate of 8% to 15% (Ashraf & Ostrosky-Zeichner, 2012). Ventilator associated pneumonia is the maximum costly infectious complication in ICU patients and has been predictable to cost at least $40,000 per patient and increases length of stay (Blot, Lisboa, Angles, et al., 2011). The etiologic bacteriologic agents related with VAP typically differ based on the timing of the occurrence of the infection relative to the start of mechanical ventilation. VAP taking place within 96 hours of the onset of mechanical ventilation

is generally due to antibiotic sensitive bacteria that colonize the patient prior to hospital admission; however VAP developing after 96 hours of ventilatory support is more often related with MDR bacteria. Prevention remainders the key to reducing the burden of VAP.

Ventilation is an important, treatment for patients who have critical illness of respiratory problems. patients be situated on pneumonia, infection, Respiratory problems, and pulmonary swelling are the complications that can occur in patients breathing difficulty; such kind of complications land up towards death, it will be cost effective, death can occur in patients with acute lung injury on ventilation. Several alterations to the VAE. The three components of ventilator associated events, Ventilator-Associated Condition, Infection related Ventilator Associated Complication, Possible VAP. Observation of patient conditions like pneumonia, breathing difficulty problems because lack of oxygen, atelectasis, lung swelling.

NEED OF THE STUDY-

Rello J et al, (2019) a study conducted on factors associated with ventilator-associated events an international multicenter prospective cohort study. The factors related with ventilator-associated events (VAEs) in adults who suffered mechanical ventilation (MV) > 48 h. factors related with VAE were predictable through multivariate Cox proportional hazards analysis. Between 163 adults (42 tracheostomies), 76 VAEs (34.9 VAEs/1,000 ventilatordays) were recognized 9 were, 58 possible ventilator-associated pneumonia). VAEs established after a median of 6 days. VAEs were autonomously related with long-acting sedative/analgesic drugs (Hazard Ration (HR) 4.30), selective digestive decontamination (SDD) (HR: 0.38), and surgical/ trauma admission surgical/trauma admission (HR: 3.11) remained associated with VAE. Between 102 subjects ventilated > 7 days, only long-acting sedative/analgesic agents (HR: 8.69) keep on independently associated with VAE. SDD application and long-acting analgesic/sedative agent's restriction prescription may prevent early and late VAEs respectively. Bundles established to prevent VAEs must include these two interventions.

Wu. V. K. S, Fong. C, Walters. A. M and Lele. A. V 2020 a study conducted on prevalence, clinical characteristics, and outcomes related to ventilator-associated events in neurocritically ill patients. The prevalence, characteristics, and outcomes related to the ventilator-associated events (VAE) in neurocritically ill patients are unidentified and inspected in this study. A retrospective study was performed on neurocritically ill patients at a 413-bed level 1 trauma and stroke center who received three or features of patients with VAE, and inspect the association of VAE on ventilator days, mortality, length of stay, and discharge to home. A total of 147 VAEs occurred in 130 (15.2%) patients with an overall VAE rate of 13 per 1000 ventilator days and happened across age, sex, BMI, and admission Glasgow Coma Scores. The usual time from the start of ventilation to a VAE was 5 days after beginning of mechanical ventilation. VAEs met measures for a ventilator-associated condition in 58% of events, infection-related VAE in 22% of events, and possible ventilator- 4 associated pneumonia in 20% of events. A maximum common trigger for VAE was arising in positive end-expiratory pressure (84%). Occurrence of a VAE was related with an increase in duration of mechanical ventilation VAE are predominant in the neurocritically ill. They outcome in an improved duration of mechanical ventilation and ICU length of stay, but may not be related with in-hospital mortality or discharge to home.8 Ali N A M, Jauncey J, & Bogossian F, (2019) a study.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of structured teaching programme on knowledge regarding ventilator associated events among nursing students in selected colleges of Navi Mumbai.

OBJECTIVES-

To determine the pre interventional knowledge regarding ventilator associated events among nursing students in study group and control group

• To determine the post-interventional knowledge regarding ventilator associated events among nursing students in study group and control group

• To compare pre-test and post-test knowledge regarding ventilator associated events among nursing students in study group and control group

• To find out the association of pre-interventional knowledge score with selected demographic variables

HYPOTHESIS:

H01: - There is no difference between the level of knowledge after structured teaching programme regarding ventilator associated events in study group and control group at 0.05 level of significance

• H02: - There is no association between pre-interventional knowledge regarding ventilator associated events in study group and control group with selected demographic variables at 0.05 level of significance

METHODS AND MATERIALS USED-

The researcher has adopted Sample size is 159 (81 study group & 78 control group), Sample taken TYBSc nursing students. In this study TYBSc nursing students between the ages of 19-22 years of age nursing students in selected nursing colleges of Navi Mumbai was the accessible population. Investigator adopted Probability simple random sampling - lottery method (blind draw), for this study. Data collection tool: Development of questionnaire: Questionnaire was developed by the investigator after review of literature on similar topics and after consulting the experts. Questionnaire was developed to observe or measure the variables under study. Description of the tool: A self-administered structured questionnaire was prepared to determine the knowledge regarding ventilator associated events which consisted two sections: A self-administered structured knowledge questionnaire was validated by nineteen experts. Reliability of the tool was checked. Reliability score was 0.81 which suggests tool was reliable

Section I: It consists of nine items related to demographic profile.

A] Demographic data - Age, gender, family income, religion, residence and type of family. B] Other characteristics- family members from medical background staying with you, if yes which background, if yes relation with family member, previous information about VAE, if yes from where)

Section II: It included questions as follows

Regarding structured knowledge questionnaire on ventilator associated events. The tool includes 32 questions from structured teaching program, and as follows: Introduction (1), Meaning (1), Incidence (1), Causes (2), Types (6), Diagnosis/assessment (3), Management (9), and preventive measures (9). Total 32 questions are taken for 32 right answers.

Scoring system

The Scoring of knowledge was done as follows:

• Poor knowledge - 0-8

• Average knowledge- 9-16

• Good knowledge- 17-25

• Excellent knowledge- 26-32

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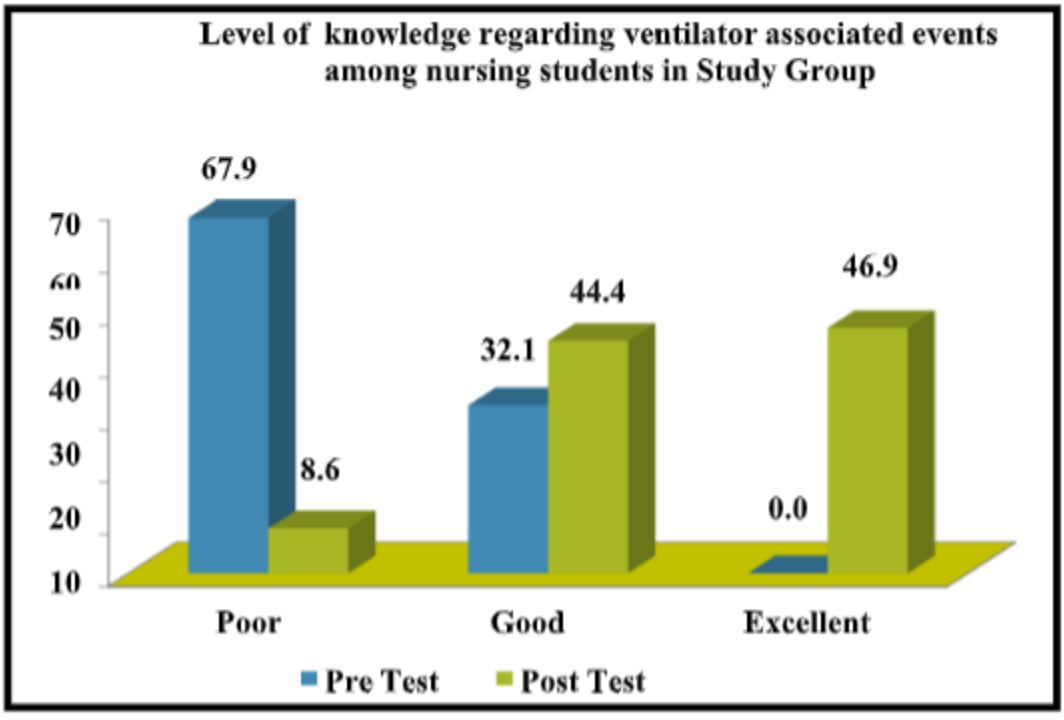
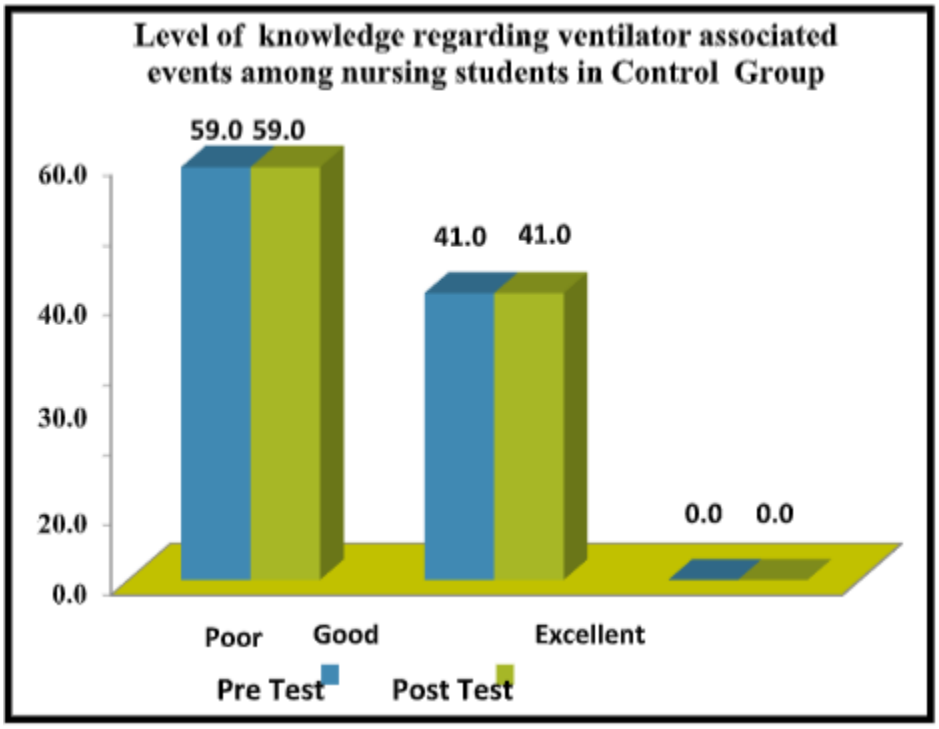
RESULTS-

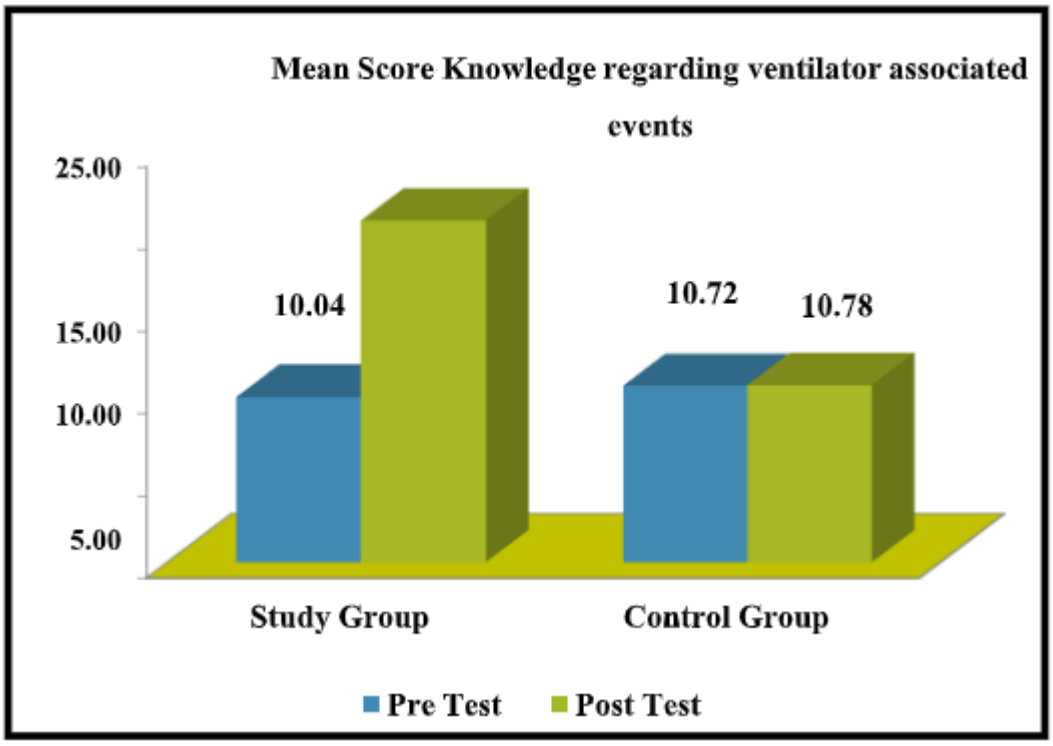
To assesspre and post-test knowledges core regarding Ventilator Associated Events among TYBSc Nursing Students using me anscore



In pre-test 67.9 % & 32.1% having poor and good knowledge respectively, inpost-test 8.6 %, 44.4% & 46.9% having poor, good and excellent knowledge respectively in study group



In pre-test 59% having poor and good knowledge, the post-test 41% having poor and good knowledge in control group.



The mean pre- test score is 10.04 & 10.72 respectively in study and control group, the mean post- test score is 20.78 & 10.78 respectively in study and control group. From the above graph its clearly evident that the mean post score is increased to 20.78 from 10.04, shows the effectiveness of structured teaching programme..

Interpritation

study group the mean of pre- test knowledge is 10.24 and standard deviation is 3.72, mean of post- test knowledge is 20.78 and standard deviation is 5.86 respectively. Since the p-value is less than 0.05 there is a significant difference in pre- test and post -test knowledge level after structured teaching programme. In control group the mean of pre-test knowledge is 10.72 and standard deviation is 2.92, mean of post- test knowledge is 10.78 and standard deviation is 2.567 respectively. Since the p-value is more than 0.05 there is a no significant difference in pre -test and post- test knowledge level..

Compare knowledge regarding ventilator associated events among nursing students instudy group Vscontrol group

Test	**Group**	**N**	**Mean±SD**	**Unpaired TTest**	**DF**	**P-Value**	**Sig.at5%level**
Pre-test	Study	81	10.04±3.72				
	Control	78	10.72±2.92	1.280	158	0.202	NotSignificant
Post-test	Study	81	20.78±5.86				
	Control	78	10.78±2.57	13.838*	158	0.000	Significant

In Table Since the p value is less than 0.05 there is significant difference in knowledge score in study group after structured teaching programme H01 is not accepted. In control group since the p value is more than 0.05 there is no significant difference in knowledge score in control group between pre-test and post-test.

DISCUSSION-

In view of achieving objectives a quantitative approach with probability simple random sampling -lottery method technique was used in selected institutes of selected nursing colleges of Navi Mumbai.

Nabawy Ahmed, Omyma Mostafa Abosamra a study conducted on Knowledge, prevention of ventilator associated pneumonia. The findings of this study where demographic variables in this study were age, years of experience, level of education previous training guidelines the average age in this study 20years to 25 years they had less than 5 years' experience in ICU, majority (98%) have BSc (N) degree and 79.6% have not taken any previous training related to ventilator associated pneumonia.35

A Yuvaraja, MN Sivakumar, K. Balasubramanian D. Manivannan, K.R Muthusami a study conduted on education training on knowledge to prevent ventilator associated pneumonia. The findings of this study where Prospective quasi experimental study were conducted among 171 nurses. The demographic variables selected was age, sex, qualification, years of experience. The major findings were female (92.9%), majority nurses were degree holders (82%), 43.8% had 0-1- year experience in critical care and majority belongs to age group of 21-24 years (70.1%).36 From the above studies major demographic variables are age, experience, education and years of experience are included as demographic variables.

A S Saritha A study to assess the knowledge regarding the care of patients on mechanical ventilation and prevention of VAP among nursing students of a selected nursing college, 2019/N. in this study they assess the knowledge regarding the care of patients on mechanical ventilation and prevention of VAP, the study showed that the majority of the subjects had an above average knowledge about VAP prevention and the care of a patient on mechanical ventilation. The study also found out that third years had a better knowledge regarding VAP prevention and the care of a mechanically ventilated patient as compared to 46

second year basic BSc which also indicates the role of experience in the knowledge improvement.37

Mr.K. Sesha Kumar, A study conducted on assess the knowledge on ventilator associated pneumonia. In this study they investigators assess the knowledge and practice on pediatric VAP among nursing students at selected college, Tirupati. The study shows that out of 96% B.Sc. nursing students 30.2% had in adequate knowledge, 26% had moderate knowledge,43.8% had adequate knowledge regarding paediatric VAP. Level of knowledge regarding practices to prevent paediatric VAP majority 36.5% students had inadequate knowledge, 28.1% students had moderate knowledge,35.4% students' adequate knowledge.38

In both the studies the researchers have assess the knowledge about ventilator associated events in nursing students.

Dorothy J. Sanders-Thompson, a study conducted on knowledge of Ventilator-Associated Events and Ventilator-Associated Pneumonia. The result of this study is the education training is very effective to increase the knowledge regarding ventilator associated events and ventilator associated pneumonia as compare to previous knowledge is very poor. It will help to give quality care to the patient. Also taking care of safety of ventilator patients. It will help to decreasing the mortality rate in the hospital settings.39

Rakhi Mishra, Navita Rani a study conducted on Usefulness of educational Program on Knowledge Regarding Care Bundle on Prevention of Ventilator-Associated Pneumonia. In this study the knowledge after administration of structured teaching program. The study findings concluded that the educational Program has improved the knowledge of nurses regarding the care bundle on prevention of ventilator-associated pneumonia.40

Both the studies shows that educational programme helping to improving the knowledge regarding ventilator associated events, improvement in knowledge will be effective in practice and quality health care service.

Auxillia Madhuvu, Ruth Endacott, Virginia Plumme, Julia Morphet a study conducted on staff knowledge, experience for prevention of ventilator-associated events. A quantitative cross sectional online survey was used a conducted among Australia intensive care units.

CONCLUSION

Study findings show that there is a no co-relation between knowledge and experience of staff. Auxillia Madhuvu, Ruth Endacott, Virginia Plumme, Julia Morphet a study conducted on knowledge of emergency care on ventilator-associated events: an evaluation study. A cross sectional survey design was used to collect quantitative data. Data were collected from intensive care nurses currently working in Australian adult intensive care units. There was a statistically significant small, positive correlation between participants' overall knowledge score and completion of post graduate qualification. There was no relationship between participants' years of experience in intensive care nursing and their overall score of the knowledge of VAE prevention guidelines.42

The above studies says that there is no associated between years of experience and level of knowledge regarding ventilator associated events.

CONFLICT OF INTEREST

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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There is no funding Source for this study

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the support and help we got throughout the research study from our principal, subject teacher, facility terms, participants, and our group member contribute to accomplishing the research study successfully.

RECOMMENDATIONS: -

Intervention studies can be planned among under graduate student nurses regarding ventilator associated events.

• A comparative study may be done on knowledge among student nurses and staff nurses in colleges and hospital settings.

• An experimental study can be conducted on knowledge among student nurses and staff nurses.

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