Effectiveness Of Structured Teaching Programme On Knowledge Regarding Mucormycosis Among The Second Year Nursing Students At Selected Nursing Institutes.: A Pre-Experimental Study.

Varsha Rahangdale[1*], Lata V. Sukare[2], Pascaline David[3], Stuti Sunar[4]

[1*] Final Year M.Sc. Nursing Student, Department of Medical- Surgical Nursing (CVTN), VSPM, MDINE, Nagpur, Maharashtra, India.
[2] Professor Department of Medical- Surgical Nursing (CVTN), VSPM, MDINE, Nagpur, Maharashtra, India.
[3] Associate Professor Department of Medical- Surgical Nursing, VSPM, MDINE, Nagpur, Maharashtra, India.
[4] Assistant Professor Department of Medical- Surgical Nursing (CVTN), VSPM, MDINE, Nagpur, Maharashtra, India

***Corresponding author:-** Varsha Rahangdale

* Final Year M.Sc. Nursing Student, Department of Medical- Surgical Nursing (CVTN), VSPM, MDINE, Nagpur, Maharashtra, India.
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Abstract

Molds from the family referred to as Mucorales. This fungus presents all over within the atmosphere, ecosystem, soil, etc. The infection happens largely by inhalation wherever it enters the sinuses and also the lungs or it will enter the body if an individual contains a burn, cut or abrasion on the skin. Whereas plant spores are gifted all over, immuno-competent patients (a one that contains a healthy immune system) are not suffering from them. However, those people who have immunocompromised (their immunity is suppressed or not all that great) such as leucopenia, HIV or cancer patient or a patient with immunological disorders or patients who are on steroids therapy or uncontrolled DM are most in danger with this zymosis.[1]

Objectives: 1) To assess the pre-test knowledge regarding mucormycosis among the second year nursing students. 2)To assess the post-test knowledge regarding mucormycosis among the second year nursing students. 3) To evaluate the effectiveness of structured teaching programme on knowledge regarding mucormycosis among the second year nursing students. 4) To associate the post test knowledge score with selected demographic variables.

Methodology: Pre- experimental pre-test post-test design used for the study. It was conducted over 125 second year nursing students by using non-probability convenient sampling technique.

Result: Analysis reveals that, pre test mean knowledge score was 9.11 with SD 3.78 was lower when compared with post-test mean knowledge score which was 23.63 with SD 4.32, Mean difference was 14.52 with SD 5.72. The degree of freedom was 124 (n=125-1), tabulated 't' value was 1.96. The calculated 't' value was 28.35 are much higher than the tabulated value at 5% level of significance for overall knowledge score of second year nursing students which is statistically acceptable level of significance. The analysis also shows that, association of knowledge score with age, place of residence, source of information and specified family member working as health care provider. No association was found with course of study and knowledge regarding mucormycosis.

Conclusion: study concluded that structured teaching programme on knowledge regarding mucormycosis among second year nursing students was effective as a teaching strategy. Hence the based on above cited findings it was concluded that the structured teaching programme was effective and helped the second year nursing students to increase knowledge regarding mucormycosis.

Keywords: Effectiveness, Mucormycosis, Knowledge, Immuno-competent, Leucopenia, HIV, Cancer

INTRODUCTION

Mucormycosis is an uncommon infection that is caused by molds from the family referred to as Mucorales. This fungus presents all over within the atmosphere, ecosystem, soil, etc. The infection happens largely by inhalation wherever it enters the sinuses and also the lungs or it will enter the body if an individual contains a burn, cut or abrasion on the skin. Whereas plant spores are gifted all over, immuno-competent patients (a one that contains a healthy immune system) are not suffering from them. However, those people who have immunocompromised (their immunity is suppressed or not all that great) such as leucopenia, HIV or cancer patient or a patient with immunological disorders or patients who are on steroids therapy or uncontrolled DM are most in danger with this zymosis.[1] The major clinical form is rhinocerebral mucormycosis. which results from germination of the sporangiospores in the nasal passages and invasion of the hyphae into the blood vessels, causing thrombosis, infarction, and necrosis. The disease can progress rapidly with invasion of the sinuses, eyes, cranial bones, and brain. Blood vessels and nerves are damaged, and patients develop oedema of the involved facial area, a bloody nasal exudate, and orbital cellulitis. Thoracic mucormycosis follows inhalation of the

sporangiospores with invasion of the lung parenchyma and vasculature. In both locations, ischemic necrosis causes massive tissue destruction. Less frequently, this process has been associated with contaminated wound dressings and other situations.[2]

Most people are frequently exposed to Mucorales without developing the disease. Mucormycosis is generally spread by breathing in, eating food contaminated by, or getting spores of molds of the Mucorales type in an open wound. It is not transmitted between people. The precise mechanism by which diabetics become susceptible is unclear. A high sugar alone does not permit the growth of the fungus, but acidosis alone does. People with high sugars frequently have higher iron levels, also known to be a risk factor for developing mucormycosis.[3]

NEED OF THE STUDY

Mucormycosis results from a range of fungi which will be usually innocuous environmental fungi and primarily affects immunocompromised patients. For this reason, the health care personnel should have a information to diagnose this disease in any of its forms when it presents in a patient with these factors. Beginning with the options of the host and therefore the reaction of the fungus once it invades the host, this activity discusses the manifestations of this disease, applicable evaluation/management of mucormycosis, and highlights the role of the interprofessional team in evaluating and treating patients with this condition.[4]

Study was conducted on Black fungus or mucormycosis: a cross-sectional knowledge assessment among the Bangladeshi health care workers during COVID-19 pandemic, Black fungus' or 'Mucormycosis' is an emerging public health concern during the COVID-19 pandemic. A cross-sectional study was carried out among the Bangladeshi health care workers from May 25, 2021, to June 5, 2021. As COVID-19 restriction existed countrywide, data were collected via a semi-structured online questionnaire by following convenient and snowball sampling methods. The main outcome variable of this study was the black fungus knowledge score; was measured by a six items' questionnaire. The other studied variables included socio-demographic, workplace, COVID-19, and health-related information of the respondents. The t-test and one-way ANOVA test were performed to investigate the association between the black fungus knowledge score and the studied variables.[5]

Result: This study found 422 responses from the health care workers of Bangladesh. Among the respondents, nearly half of them (45.26%) were doctors (n= 191); where the nurses (n=161) were 38.15%, and other health care workers (n=70) were 16.59% This study found that the black fungus mean score of health care workers significantly associated with seniority (p=0.001), gender (p-value = 0.012), profession (p<0.001), death of friends and family members due to COVID-19 (p=0.049).[5]

By reviewing all the study, researcher found that Mucormycosis is one of the most common post covid complication which is increasing in recent decades. The prevalence rate of mucormycosis is high in India as compare to other country. Disease associated mortality and morbidity rate is still high as many patients seek medical help in later stage. Students are actively involved in providing care to the patients in clinical area as well as in community area. Providing knowledge to student nurses will help them to educate people about causes, risk factors, signs and symptoms, prevention and management of mucormycosis. It will also help them to identify such cases during nursing assessment which will help for early diagnosis and treatment.

METHODOLOGY

In present study, researcher adopted pre experimental one group pretest and posttest design research design It assess the Knowledge Regarding Mucormycosis among the Second Year Nursing Students at selected Nursing Institutes. The researchers also described the association with demographic variables. The population of present study comprises Second Year Nursing Students at selected Nursing Institutes. In inclusion criteria: 1.Studying in second year of Basic B.Sc. Nursing and General Nursing & Midwifery Course. Willing to participate in the study. Available at the time of data collection.. In exclusion criteria: 1.Studying in M.Sc. Nursing and Post Basic B.Sc. Nursing ,Not willing to participate in study. Description of Tool The structured questionnaire schedule was constructed into three sections. Section A: Consisted of demographic data Section B: Self-administered knowledge questionnaire to assess knowledge Plan For Data Analysis: Analysis is the strategy used in theory development in which concepts, statements or theo

RESULT

Majority 93 (74.40%) of second year nursing students were in the age group of 18-20 years, 30 (24%) of them were in the age group of 21-23 years and 2 (1.60%) of them were more than 24 years. Majority 109 (87.20%) of second year nursing students were females however 16 (12.80%) of second year nursing students were males.Majority 80 (64%) of second year nursing students were from GNM and 45 (36%) of second year nursing students were from B.BSc. nursing. Majority 76 (60.80%) of second year nursing students were from urban areas 37 (29.60%) of second year nursing students were from rural areas, and 12 (9.60%)of them were from semi urban areas. Majority 94 (75.20%) of second year nursing students had knowledge regarding mucormycosis however 31 (24.8%) were not having knowledge regarding mucormycosis. Majority 55 (58.50%) had received information from mass media , 12 (12.80%) from teachers, 10 (10.60%) from health professionals, 6 (6.40%) from friends and books and 5 (5.30%) had information

from other sources like public places. Majority 69 (55.2%) of second year nursing students family member are not working as health care providers however 56 (44.80%) of second year nursing student's family member working as a health care provider.

Majority 26 (46.40%) of second year nursing students family members working as nurse, 9 (16.10%) doctors, 8 (14.30%) paramedical workers and 13 (23.20%) other health care provider like ASHA worker and ambulance driver.

SECTION II: DESCRIPTION OF PRE-TEST KNOWLEDGE REGARDING MUCORMYCOSIS AMONG SECOND YEAR NURSING STUDENTS AT SELECTED NURSING INSTITUTES

In pre-test majority 71 (56.8%) of the second year nursing students had average knowledge score, 37 (29.6%) had poor level of knowledge score, 16 (12.8%) had good level of knowledge score, 1 (0.8%) had very good level of knowledge score and none of them were had excellent level of knowledge.

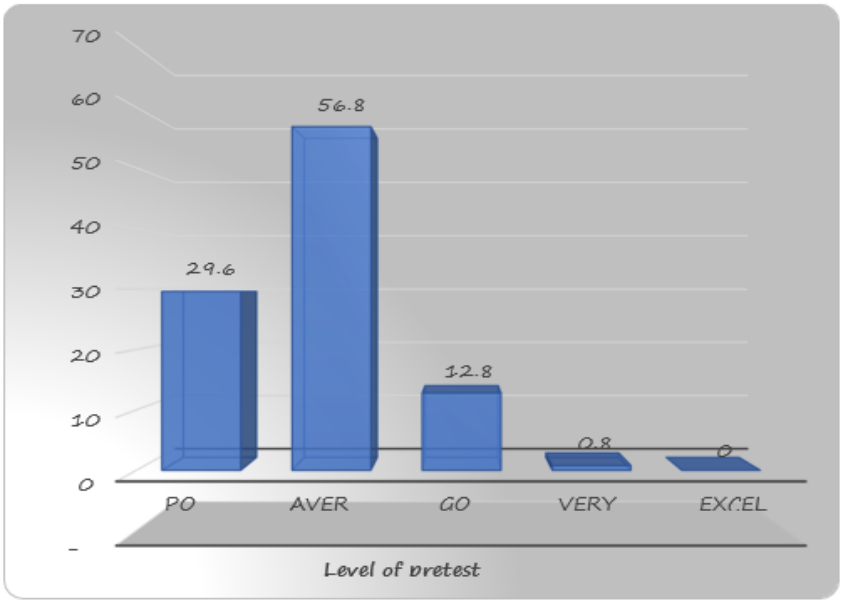

Figure 1:-Scription Of Pre-Test Knowledge Regarding Mucormycosis Among Second Year Nursing Students At Selected Nursing Institutes

SECTION III:-DESCRIPTION OF POST-TEST KNOWLEDGE REGARDING MUCORMYCOSIS AMONG SECOND YEAR NURSING STUDENTS AT SELECTED NURSING INSTITUTES

post-test majority 58 (46.4%) of second year nursing students had very good knowledge score, 54 (43.2%) had excellent level of knowledge score, 13 (10.4%) had good knowledge score and none of them had poor and average level of knowledge. Minimum knowledge score in posttest was 13 and maximum knowledge score in post-test was 30.

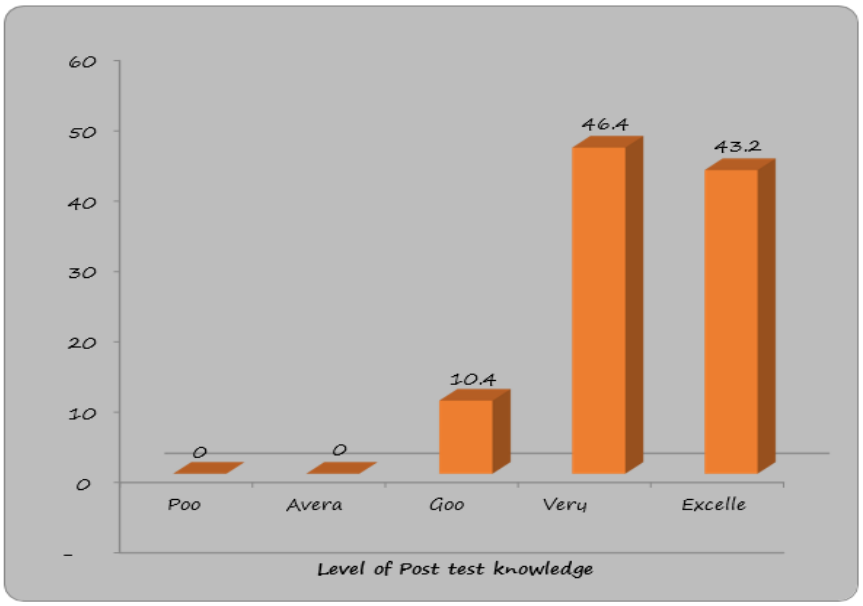

Figure 2:-Bar Diagram representing percentage wise distribution of with post- test knowledge score regarding mucormycosis among second year nursing students at selected nursing institute

SECTION IV:-DESCRIPTION ON THE EFFECTIVENSS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING MUCORMYCOSIS AMONG THE SECOND YEAR NURSING STUDENTS AT SELECTED NURSING INSTITUTES

Overall mean knowledge score of pretest and post test. The pre test mean knowledge score was 9.11 with SD 3.78 was lower when compared with post- test mean knowledge score which was 23.63 with SD 4.32, mean difference was 14.52 with SD 5.72. The degree of freedom was 124 (n=125-1), tabulated 't' value was 1.96. The calculated 't' value i.e. 28.35 are much higher than the tabulated value at 5% level of significance. Hence it is statistically interpreted that the research hypothesis (H1) is accepted and null hypothesis (H0) is rejected. Thus the Structured Teaching Programme on knowledge regarding Mucormycosis among second year nursing students was effective and the level of knowledge is significantly increased as compare to the pre-test.

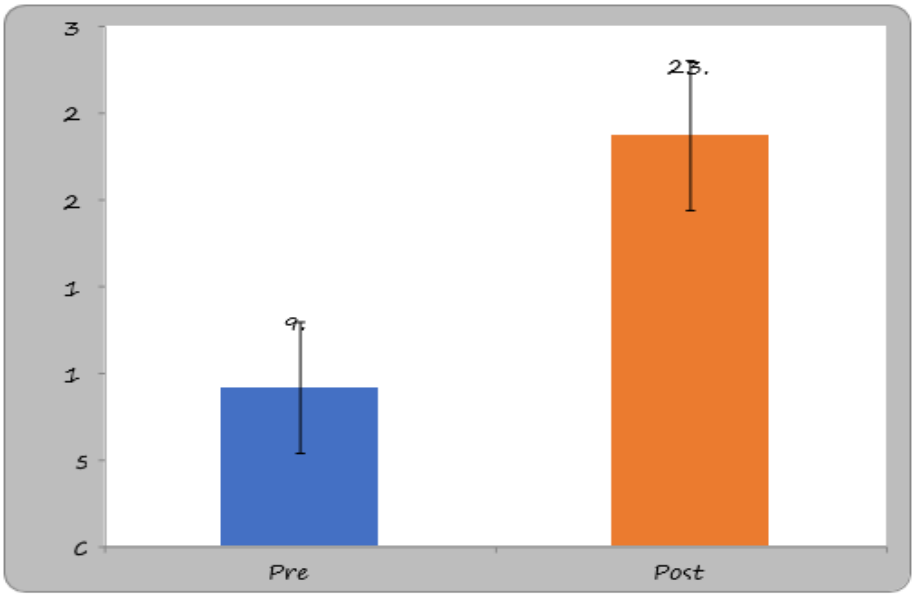

Figure 3:-Bar Diagram representing effectiveness of structured teaching programme on knowledge score of pre-test and post-test regarding mucormycosis among second year nursing students at selected nursing institutes.

SECTION V:-DESCRIPTION ON ASSOCIATION OF LEVEL OF POST TEST KNOWLEDGE SCORE REGARDING MUCORMYCOSIS AMONG SECOND YEAR NURSING STUDENTS FROM SELECTED NURSING INSTITUTES IN RELATION TO SELECTED DEMOGRAPHIC VARIABLES

Table no. 2:- Table showing associations of post-test knowledge score regarding mucormycosis among second year nursing students in relation to selected demographic variables

Demographic variables	Calculated values			Df	Table value	Level of significance p<0.05	Significance
	t-value	f-value	p-value				
Age (in years)		4.72	0.011	2,122	2.99	p<0.05	S
Course of study	1.17		0.24	123	1.96	p>0.05	NS
Place of residence	2.67		0.009	123	1.96	p<0.05	S
Knowledge regarding mucormycosis	0.92		0.35	123	1.96	p>0.05	NS
Source of information		4.50	0.001	5,88	2.29	p<0.05	S
Specified health care provider	5.76		0.0001	123	1.96	P<0.05	S

Shows the association of knowledge score with age, place of residence, source of information and specified health care provider. No association was found with course of study and knowledge regarding mucormycosis.

DISCUSSION

A Study conducted to Assess Level of Knowledge Regarding Mucormycosis and its Management Among Nurses Working in Selected Hospitals in Kanpur, U.P. In this study quantitative descriptive approach was used and research design was descriptive survey. The Sample size and sampling was 60 nurses. Self structured tool was given to selected

sample nurses. Results of the study shows that Majority 34 were in age group of 30-40. years, 2 in age group 40-50 years and 15 in age group 20-30 years. According to gender, maximum 60 nurses were of female gender and zero of male gender. According to experience maximum nurses 29 were having experience of above 20 years,11 were having above 15 years' experience and 20 had 10 years and above experience. According to source of information maximum 29 had information from media, minimum 2 had information from friends followed by 27 who had information from newspaper and nursing journals and 2 had from doctors. The study shows that out of 60 nurses 6 (10 %) of nurses had good knowledge, 41 (68 %) had average knowledge and 13 (21 %) of nurses had below average knowledge on mucormycosis and its management. Mean was 13.6 and SD was 6.78. Chi square association revealed that there was no significant association between the level of knowledge and selected demographic variables i.e. age, gender, source of information and experience.[6]

In present study also majority 109 (87.20%) students were female. As per source of information in present study also majority 55 (58.50%) students received information from mass media. Findings of present study also shows that in pre-test majority students 71 (56.8%) had average level of knowledge regarding mucormycosis, 37 (29.6%) had poor level of knowledge score, 16 (12.8%) had good level of knowledge score, 1 (0.8%) had very good level of knowledge score and none of them were had excellent level of knowledge, mean pre- test score i.e. 9.11 ± 3.78. In present study after pre-test structured teaching programme was given on mucormycosis and after 7 days post-test was taken which shows significant, increase in post-test mean score i.e. 23.63±4.32. Mean difference was 14.52 with SD 5.72. The degree of freedom was 124 (n=125-1), tabulated 't' value was 1.96. The calculated 't' value was 28.35 are much higher than the tabulated value at 5% level of significance. Thus the Structured Teaching Programme on knowledge regarding Mucormycosis among second year nursing students was effective and the level of knowledge is significantly increased as compare to the pre-test.

CONCLUSION

Mucormycosis, also known as black fungus, is a serious fungal infection that comes under fulminant fungal sinusitis, usually in people who are immunocompromised. It is curable only when diagnosed early. Symptoms depend on where in the body the infection occurs. In present study also majority 109 (87.20%) students were female. As per source of information in present study also majority 55 (58.50%) students received information from mass media.After detailed analysis, this study leads to the fallowing conclusion:The study reveals pre test mean knowledge score was 9.11 with SD 3.78 and post-test mean knowledge score which was 23.63. The calculated 't' value is higher than the tabulated value at 0.05 level of significance. Thus the research hypothesis (H1) is accepted and null hypothesis (H0) is rejected. Analysis also reveals that there is association of post-test knowledge score with age, place of residence, source of information and family member working as health care provider.Hence it is statistically interpreted that structured teaching programme on knowledge regarding Mucormycosis among second year nursing students was effective as a teaching strategy. Hence the based on above cited findings, it was concluded that structured teaching by the investigator helped the second year nursing students to increase knowledge regarding mucormycosis.

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