

Study to Assess Level of Knowledge Regarding Mucormycosis and its Management Among Nurses Working in Selected Hospitals in Kanpur, U.P.

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Abstract: This paper presents a study to assess knowledge regarding Mucormycosis and its management among nurses in selected hospitals of Kanpur, U.P.

Keywords: Mucormycosis, covid, stem cell transplant, organ transplant.

1. Background of the Study

Nurses working as covid warriors must be vigilant in identification of any signs and symptoms of development of Mucormycosis in covid positive patients. Mucormycosis is more common among patients who have existing health issues or take medicines that lower the body's immunity to fight germs and sickness. Nurses should have adequate knowledge on risk to develop mucormycosis specially in patients with

- Diabetes
- Long-term corticosteroid use
- Use of Oxygen Intubation
- Use of Humidifier
- Cancer
- Organ transplant
- Stem cell transplant
- Injection drug use
- Too much iron in the body
- Skin injury due to surgery, burns, or wounds
- Prematurity and low birth weight

Adequate knowledge about disease condition, its sign and symptoms, risks to develop and management may help nurses to prevent upcoming cases as well as reduce the number of emerging cases by rendering best knowledgeable care.

2. Introduction

Mucormycosis (formerly known as zygomycosis) is a dangerous but uncommon fungal illness caused by a group of moulds known as mucormycetes. Mucormycosis is contracted by coming into touch with fungus spores in the environment.

Inhaling spores from the air, for example, can cause the infection to spread to the lungs or sinuses. After the fungus enters the skin through a scrape, burn, or other sort of skin damage, a skin infection can develop. Mucormycosis cannot be transmitted from one person to another or between humans and animals. Mucormycosis can be caused by a variety of fungi. Mucormycetes are fungi that belong to the Mucorales scientific order. Rhizopus species and Mucor species are the most common forms that cause mucormycosis. 5 Rhizomucor species, Syncephalastrum species, Cunninghamella bertholletiae, Apophysomyces, Lichtheimia (previously Absidia), Saksenaia, and Rhizomucor species are some further instances. Mucormycosis is a dangerous infection that requires treatment with antifungal medications such as amphotericin B, posaconazole, or isavuconazole. Amphotericin B, posaconazole, and isavuconazole are given intravenously (amphotericin B, posaconazole, and isavuconazole) or orally (posaconazole, isavuconazole) (posaconazole, isavuconazole). Fluconazole, voriconazole, and echinocandins are not effective against the fungi that cause mucormycosis. Mucormycosis frequently necessitates surgery to remove diseased tissue.

Symptoms of rhinocerebral (sinus and brain) mucormycosis include:

- Headache
- One-sided facial swelling
- Nasal or sinus congestion
- Black lesions on nasal bridge or upper inside of mouth
- Fever

Symptoms of pulmonary (lung) mucormycosis are:

- Fever
- Cough & Shortness of breath
- Chest pain

Symptoms of gastrointestinal mucormycosis include:

- Abdominal pain
- Nausea and vomiting
- Gastrointestinal bleeding

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3. Problem Statement

A descriptive study to assess knowledge regarding mucormycosis and its management among nurses working in selected hospitals in Kanpur, U.P.

4. Aim of the Study

The aim of the study is to assess the level of knowledge regarding mucormycosis and its management among nurses working in selected hospitals Kanpur, U.P.

5. Objectives

- To assess the knowledge regarding mucormycosis and its management among nurses.
- To find out the association between the level of knowledge on mucormycosis and selected demographic variables.

6. Methodology

1) *Research approach*: A quantitative descriptive approach.

2) *Research Design*: Descriptive Survey.

3) *Variable*

- *Research variable*: In the study, knowledge of mucormycosis and its management is dependent variable.
- *Demographic variable*: Age, Gender, source of information and experience.

4) *Research Setting*: The study was conducted at selected hospitals in Kanpur City.

5) *Population*: Nurses working in covid wards.

6) *Sample size and sampling*: 60 nurses were selected who met the criterion of sample selection. Purposive sampling was done to select sample.

7) *Sampling criteria*: 60 nurses were selected on the basis of following criteria:

Inclusion criteria:

- Nurses working specially in covid wards.
- Nurses who were caring for mucormycosis patients.
- Nurses who were available at the time of study and were willing to participate.

Exclusion criteria:

- Nurses who were not working in covid wards.
- Nurses who were not available and not willing to participate in the study.

8) *Limitation*: The study is limited to 2 selected hospitals in Kanpur.

9) *Tool used for data collection*: Self Structured questionnaire.

10) *Selection and development of study tool*: The tool was structured for the purpose of the study containing multiple choice questions as following sections:

- *Section A*: It comprised of 4 items. Demographic variables as age, gender, source of information and experience.
- *Section B*: It comprised of 30 items. Self-structured questionnaire on mucormycosis and its management.

- *Scoring Technique*: The knowledge questionnaire consisted of 30 closed ended multiple choice questions in a single correct answer. Every correct answer was awarded one score and every incorrect was awarded as 0 score. The maximum score on knowledge was thirty and minimum score was zero.

Ethical Consideration: Ethical permission was obtained from selected hospitals under study and consent from study participants.

Data Collection Procedure:

Formal administrative permission to conduct study was obtained from Medical Dean of the selected hospitals of Kanpur. The data was collected on 15 May 2021. The nature, purpose and aim of the study was explained to the nurses. They were assured of confidentiality and the use of data for research purpose. Self-Structured tool was given to selected sample nurses. The average time taken by nurses to fill the questionnaire was 10-15 minutes.

7. Results

- Out of 60 nurses, maximum 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.

Table 1
Frequency and percentage distribution of nurses depending upon their level of knowledge on mucormycosis

Level of knowledge	Range	Frequency	Percentage
Good	20-30	6	10%
Average	10-20	41	68.3%
Below Average	0-10	13	21.6%

Maximum score = 30 Minimum score = 0

Table 1 shows that out of 60 nurses 10 % of nurses had good knowledge, 68 % had average knowledge and 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 is no association between the level of knowledge and selected demographic variables. On analysis there was significant association between age and level of knowledge as evidenced by chi square value of 2.78, degree of freedom at 0.05 level of significance while of gender was at 0.5 level of significance, degree of experience at 0.5 level of significance and source of information at 0.5 level of significance chi square value of 34.1.

8. Discussion

Study to assess knowledge regarding mucormycosis and its management among nurses working in selected hospitals of Kanpur City.

The objective is supported by the study findings as out of 60 nurses 6 nurses had very good knowledge, 41 had average knowledge and 13 had below average knowledge on mucormycosis. The overall mean and SD are 13.6 and 6.78. The objective is supported by the finding shown in chi square association which shows no association between age, gender, source of information at 0.5 level of significance.

Hence it can be concluded that there is no impact of age, gender, experience and source of information on knowledge regarding mucormycosis.

9. Conclusion

The researchers conclude that majority of nurses had average knowledge regarding mucormycosis so there is a need to develop good teaching plan at hospitals including training as well.

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