

A Study to Evaluate the Effectiveness of Planned Teaching Programme Regarding Management of Mucormycosis among Post Covid Patients Residing At Selected Community Area, Puducherry.

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ABSTRACT: -

Mucormycosis is a rare but severe invasive fungal infection, mainly described in immune compromised patients. Mucormycosis is a rare but severe invasive fungal infection occurring mostly in immune compromised patients, especially in individuals diagnosed with uncontrolled diabetes mellitus or hematological malignancies and in previously healthy subjects with open wounds contaminated by Mucorales. Life-threatening fungal infections have risen sharply in recent years, owing to advances and intensity of medical care that may blunt immunity in patients. These insights create a foundation for the development of new immune-based strategies for prevention or enhanced clearance of fungal diseases.

Keywords: To evaluate the effectiveness of management of mucormycosis

I. INTRODUCTION:

Mucormycosis is a rare opportunistic fulminant fungal infection caused by saprophytic fungi. According to Brown, mucormycosis ranked third among opportunistic deep fungal infections, after Candidiasis and Aspergillosis. It is frequently found in soil, residue plants, spoiled food and upper respiratory tract of healthy individuals. It becomes pathogenic when associated with predisposing factors such as immunocompromised states, most commonly (60– 81%) diabetes mellitus. The other predisposing factors are malignancies like lymphomas and leukemia's, renal failure, organ transplant, long term immunosuppressant therapy, cirrhosis, burns, protein energy malnutrition and acquired immunodeficiency syndrome.

Invasive mucormycosis (IM) is a rare invasive filamentous fungal infection that is seen primarily in immune-compromised patients [1]. Despite aggressive surgical and antifungal therapy, morbidity and mortality continue to remain high, emphasizing the importance of early clinical suspicion and hence early diagnosis and intervention. Predisposing risk factors that have been described for mucormycosis include chronic high dose corticosteroid use, severe graft versus host disease and its treatment, hematological malignancies, high-risk stem cell transplant, and solid organ transplant recipients.

Mucormycosis is an angioinvasive fungal infection due to fungi of the order Mucorales. Depending on the clinical presentation it is classified as rhinocerebral, pulmonary, cutaneous, gastrointestinal, disseminated or other, which includes uncommon rare forms, such as endocarditis, osteomyelitis, peritonitis, renal, etc. The disease was first described in 1876 when Fürbinger described in Germany a patient who died of cancer and in whom the right lung showed a hemorrhagic infarct with fungal hyphae and a few sporangia. In 1885, Arnold Paltauf published the first case of disseminated mucormycosis, which he named "Mycosis mucorina". His drawings of the etiologic agent showed the presence of sporangiophores and rhizoid-like structures, and this led to the conclusion that the infection was most probably caused by *Lichtheimia corymbifera*. Over time, more cases were diagnosed, and the incidence of the disease has increased.

II. REVIEW OF LITERATURE

Patel, et al., (2020) conducted a study on Epidemiology and risk factors for mucormycosis in Chennai city, India, 50 post-covid patients from Chennai were selected through prospective study to participate in the intervention program. A structured questionnaire interview schedule was used to collect the details regarding level of knowledge, attitude and effectiveness of selected post covid patients before and after intervention

program. The result showed a significantly increased level of knowledge about the risk factor of mucormycosis, a highly significant change in attitude towards the transmission of mucormycosis

STATEMENT OF PROBLEM:

A study to evaluate the effectiveness of planned teaching programme regarding management of mucormycosis among post covid patients residing at selected community area, Puducherry.

OBJECTIVES OF STUDY

- To describe the epidemiology, management and outcome of individuals with mucormycosis.
- To evaluate the risk factors associated with mortality.
- Summarize the treatment and management option available for mucormycosis.
- To explain the evaluation of mucormycosis.

ASSUMPTION

- This study will help community people to gain knowledge regarding mucormycosis.
- A structured question may helped community people to gain knowledge.
- There may be no side effect in the treatment of mucormycosis.

III. MATERIALS AND METHODS

The resource approach used for this study was quantitative research approach. A descriptive research design was used to evaluate the knowledge about the management of mucormycosis in the community area.

By using convenience sampling technique, 50 sample was selected for the present study. The period of data collection was 2 weeks. The tool consists of demographic data, questionnaire. The outcome of study was evaluated by using descriptive and inferential statistics.

Section A: Demographic variables such as age, gender, religion, education, job type, marital status, types of family, having children, types of residence, previous history of covid 19 , having PPE, duration of steroid intake, any lifestyle diseases.

Section B: Multiple choice questionnaire to assess the management of mucormycosis among the post covid patient in silukarapalayam, Puducherry. It consist of totally 25 questions. Each questions carry one marks.

SCORE INTERPRETATION:

Classification	Inadequate	Moderately adequate	Adequate
Score	0-10	10-16	16-25

RESEARCH APPROACH:

A quantitative research approach was selected for this study.

RESEARCH DESIGN:

The descriptive research design was adapted for this study.

SAMPLE:

The sample of the study is post covid patients.

SAMPLE SIZE:

The sample size of the study consists of 50

SAMPLING TECHNIQUE:

The convenience sampling technique was used for this study.

SETTING OF THE STUDY:

The study will be conducted in silukarapalayam, puducherry

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria:

- Post covid patient.
- Those who are willing to participate in the study.
- Both male and female.
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Exclusion criteria:

- People having communicable and non communicable disease other than covid.
- Those who are not willing to participate in the study.

IV. RESULT

Majority of the patients 15(30%) of study population were in the age group are 30-40 years. Majority of the patients were male 26(52%). All of the patients were Hindu 50(100%). Majority of the patients were Illiterate 20(40%). Majority of the patients were Unemployed 19(38%). Majority of the patients were married 35(70%). Majority of the patients were Nuclear and joined family 24(48%). Majority of the patients were having 2 children 23(46%). Majority of the patients were Rural 49(98%). Majority of the patients had previous history of covid 19, 48(96%) positive. Majority of the patients had PPE, 46(92%). Majority of the patients were 14 days duration of steroid intake 28(56%). Majority of the patients were had not any lifestyle diseases 40(80%).

Frequency and percentage wise distribution of demographic variables among post covid patients.

(N=50)

SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1	Age		
	A) 20-30 years	12	24
	B) 30-40 years	15	30
	C) 40-50 years	12	24
	D) >50 years	11	22
2	Sex		
	A) Male	26	52
	B) Female	24	48
	C) Transgender	0	0
3	Religion		
	A) Hindu	50	100
	B) Muslim	0	0
	C) Christian	0	0
	D) Others	0	0
4	Education		
	A) Illiterate	20	40
	B) Primary school	12	24
	C) Secondary school	11	22
	D) Graduated	7	14
5	Job type		
	A) Government job	5	10
	B) Private job	12	24
	C) Own business	14	28
	D) Unemployed	19	38
6	Marital status		
	A) Unmarried	10	20
	B) Married	35	70
	C) Divorced	5	10
7	Type of family		
	A) Nuclear	24	48
	B) Joined family	24	48
	C) Single	2	4
8	Having children		
	A) One children	13	26
	B) Two children	23	46

	C) 2 or more children	14	28
9	Type of Residence		
	A) Rural	49	98
	B) Urban	1	2
10	Previous history of covid 19		
	A) Positive	48	96
	B) Negative	2	4
11	Having PPE		
	A) Yes	46	92
	B) No	4	8
12	Duration of steroid intake		
	A) 14 days	28	56
	B) 30 days	0	0
	C) 15 days	22	44
13	Any lifestyle diseases		
	A) Yes	10	20
	B) No	40	80

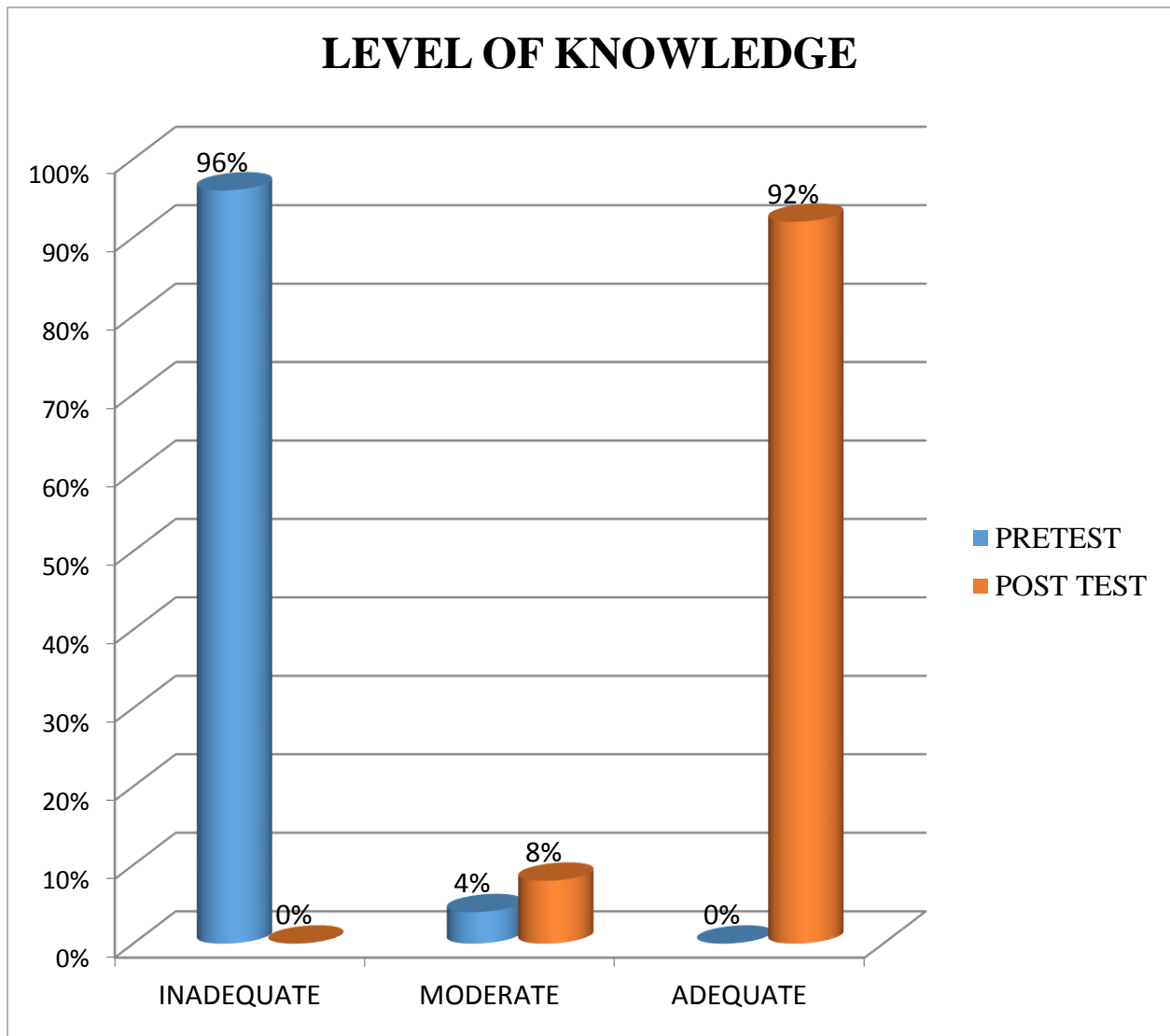
Frequency and percentage wise distribution of pretest and post -test of the level of knowledge regarding management of mucormycosis among post covid patients.

(N=50)

LEVEL OF KNOWLEDGE	PRETEST		POST TEST	
	N	%	N	%
INADEQUATE	48	96	0	0
MODERATE	2	4	4	8
ADEQUATE	0	0	46	92
Mean Standard deviation	5.98±1.220		18.64±1.816	

In pretest, Majority of patients 48(96%) had inadequate and 2(4%) had moderate level of knowledge and the mean and standard deviation of the level of knowledge regarding management of mucormycosis among post covid patients is 5.98±1.220.

In post- test, Majority of patients 46 (92%) had adequate and 4 (8%) had Moderate level of knowledge and the mean and standard deviation of the level of knowledge regarding management of mucormycosis among post covid patients is 18.64±1.816.



V. CONCLUSION:

A study to evaluate the effectiveness of planned teaching programme regarding management of mucormycosis among post covid patients residing at selected community area, Puducherry... The findings of the study revealed **In pretest**, Majority of patients 48(96%) had inadequate and 2(4%) had moderate level of knowledge and the mean and standard deviation of the level of knowledge regarding management of mucormycosis among post covid patients is 5.98 ± 1.220 . **In post- test**, Majority of patients 46 (92%) had adequate and 4 (8%) had Moderate level of knowledge and the mean and standard deviation of the level of knowledge regarding management of mucormycosis among post covid patients is 18.64 ± 1.816 .

The mean score of effectiveness of the level of knowledge of planned teaching programme regarding management of mucormycosis among post covid patients in the pre-test was 5.98 ± 1.220 and the mean score in the post- test was 18.64 ± 1.816 .

NURSING IMPLICATIONS:

The study had implications for nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE:

The community area nurses must have some knowledge about mucormycosis and take care of high risk population.

NURSING EDUCATION:

The nurse educated the general people about mucormycosis in the community settings and handling of high-risk clients. Provide a necessary health education, provide a activity therapy or routine works etc.

NURSING RESEARCH:

Numbers of studies are being conducted to evaluate the effectiveness of planned teaching programme regarding management of mucormycosis among post covid patients residing at selected community area, Puducherry. Nursing studies are comparatively less in this community field. Different studies have to be conducted further prevalence of infection.

NURSING ADMINISTRATION:

Nurse's administrators can make necessary steps to spread awareness about mucormycosis. Nurse's administration can organize awareness program or some participation events about black fungal infection.

RECOMMENDATIONS:

- A similar study can be conducted by large number of sample in future.
- The study was conducted to particular group of people at particular age.
- A prospective study can also be conducted

BOOK REFERENCE:

- [1]. Basavanthappa BT .Nursing Research, New Delhi; Jaypee Brothers Medical Publishers(p)Ltd.
- [2]. K.Park; A textbook of preventive and social medicine; published by banarsidas bhanot ; 25th edition.
- [3]. Shyamala D Manivannan ; A textbook of community health nursing ; CBS Publishers & Distributors.
- [4]. S Kamalam ; Essentials in community health nursing practice ; jaypee publications; 3rd edition.
- [5]. Simrat kaur N.J . Singh ; A textbook of community health nursing -1 , lotus Publishers.
- [6]. Suresh K Sharma ,Nursing Research and Statistics, Published by Elsevier, A Division Of Reed Elsevier India Private Limited.
- [7]. Abdellah,G.Faye, Eugene Levene, Better Patient Care Through Nursing Research London: The Mac Million Publishing Company.
- [8]. American Holistic Nurses Association. Position on the role of Nurses in the Practice of Complementary and Alternative Therapies.
- [9]. Kothari CR ,Research methodology-methods and techniques.2nd edition New.
- [10]. Burns Nancy, Grove k Susane The Practice of Nursing Research-Conduct, Critique and Utilization, 2nded.Philadelphia (us);WB Saunders Company.
- [11]. Polit FD, Beck CT. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 8th ed. Philadelphia: Lippincott, Williams and Wilkins; publication
- [12]. Kipson city (1988) manual of ing Practices 8th edition, Ed.Lippincott, Williams & Wilkins, publications, US.

JOURNAL REFERENCE

- [13]. Patrick Schwarz,Houssem Guedouar,Farah Laouti,Frédéric Grenouillet andEric Dannaoui. J. Fungi 2019, 5(3), 56Cited by 11 | Viewed by 2749 Link: <https://bit.ly/2WFHoww>
- [14]. Petrikkos G, Skiada A, Lortholary O, Roilides E, Walsh TJ, et al. (2012) Epidemiology and Clinical Manifestations of Mucormycosis. Clinical Infectious Diseases 54: S23-S34. Link: <https://bit.ly/3zv2kEK>
- [15]. Lewis RE, Kontoyiannis DP (2013) Epidemiology and treatment of mucormycosisexternal icon. Future Microbiol 8: 1163-1175. Link: <https://bit.ly/3jynnRb>
- [16]. Hasegawa M (2017) Differential Diagnosis and Pathogenesis for Orbital Tumors. Japanese Journal of Neurosurgery June 26: 419-429. Link: <https://bit.ly/3yD9J3A>
- [17]. Ministry of AYUSH Govt. of India, Guidelines for Ayurveda practitioner's for covid-19 Link: <https://bit.ly/3DunVzH>
- [18]. YM Sri Sarada Ayurveda Hospital Derisanamcope, Azhagiapandiapuram Post Kanyakumari Dist- 629851, Tamil nadu. & Professor Dept of Kayachikitsa & PG StudiesPankajakasthuri Ayurveda Medical College, Killy, Kattakkada.

NET REFERENCE

- [19]. www. Wikipedia. Com
- [20]. www.researchgate.net
- [21]. www. ncbi.nlm.nih.gov/pubmed.com
- [22]. www. Science direct.com