

Research Article**“A STUDY TO ASSESS THE EFFECTIVENESS OF NURSE LED EDUCATION ON KNOWLEDGE OF FARMERS REGARDING ODTs (ORGANIC DUST TOXIC SYNDROME) AND ITS PREVENTION IN SELECTED RURAL AREA AT KANPUR, UP.”****Km. Aruna Maurya¹, Komal Kasaudhan¹, Kritika Shukla¹, Menka Devi¹, Muskaan verma¹,**

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Mr. Deepak Suwalka² Head of Department, Professor, Department of Mental Health Nursing, Faculty of Nursing, Rama University, Mandhana, Kanpur, Uttar Pradesh, India.deepak.rcn@ramauniversity.ac.in**ABSTRACT**

A farmer is a person engaged in agriculture, raising living organism for food and raw materials so they face many health problems and complications. The rate and extent of which varies among farmers. Organic Dust Toxic Syndrome (ODTS), also known as farmer's fever. It is caused by inhaling dust contaminated with molds from spoiled plant material, such as stored grain or ensiled crops. It commonly affects farmers, especially those working with grains, textiles, or animals. Symptoms, which appear after inhaling contaminated dust, include fever and coughing. Symptoms typically resolve within 1-4 days. The present study was conducted, To assess the effectiveness of nurse led education on knowledge of farmers regarding ODTS (Organic Dust Toxic Syndrome) and its prevention in selected rural area at Kanpur, UP. 60 samples were collected by using purposive sampling

technique through structured knowledge questionnaire the data collected and analyzed based on descriptive and inferential statistics. The result of the study showed that the post-test mean score (14.07) was high when compared to the pre-test mean (6.62) score of knowledge. The obtained "t" value (23.22) was greater than table value which was 0.05 level of significance, which shows that there is significant difference between pre-test and post-test level of knowledge hence the formulated research hypothesis H_1 was accepted H_{01} rejected. The test revealed that there was no significant association of knowledge with selected demographic variables such as gender and previous knowledge and significant association no knowledge with demographic variables such as age in year, food habits, type of family, education status and history of disease.

Key words: *Assess, evaluate, nurse led education, effectiveness, Knowledge, ODTS.*

INTRODUCTION

Organic Dust Toxic Syndrome (ODTS), also known as Farmer's Fever. It is caused by inhaling dust contaminated with molds from spoiled plant material, such as stored grain or ensiled crops. It commonly affects farmers, especially those working with grains, textiles, or animals. Symptoms, which appear after inhaling contaminated dust, include fever and coughing. Symptoms typically resolve within 1-4 days if the individual avoids further exposure to dusty environments, such as farms or textile factories. However, repeated exposure can increase the risk of developing a range of respiratory symptoms. ODTS with other name like Toxic Organic Dust Syndrome (TODS), Grain fever, Pulmonary mycotoxicosis, Silo unloader's syndrome, Precipitin - negative farmer's lung disease, Mill fever, Inhalation fever, Toxic pneumonitis, Toxic alveolitis. In the current medical literature, is a very common noninfectious febrile illness that is seen after inhalation exposure to organic dust.⁷

NEED OF STUDY

A study to Organic Dust Toxic Syndrome (ODTS) among farmers is critical due to its high prevalence as a potentially severe occupational respiratory illness, which can result in chronic health issues and

necessitates understanding its causes and prevention to safeguard agricultural workers." ODTS is a respiratory condition resulting from the inhalation of organic dust, commonly encountered in agricultural and occupational environments. A key reason for investigating ODTS is to gain a deeper understanding of its prevalence and incidence rates. ODTS poses a substantial occupational health risk: however, its frequency and distribution patterns require further clarification. Research on ODTS can yield vital information on its prevalence and incidence, ultimately guiding the development of effective strategies to minimize organic dust exposure and prevent the syndrome. Another vital reason for researching ODTS is to enhance its diagnostic accuracy and treatment efficacy. ODTS frequently goes misdiagnosed or underdiagnosed due to symptom overlap with other respiratory diseases. Research on ODTS can facilitate the development of standardized diagnostic criteria, ultimately enhancing diagnostic accuracy and treatment outcomes.

PROBLEM STATEMENT:

A study to assess the effectiveness of nurse led education on knowledge of farmers regarding ODTS (Organic Dust Toxic Syndrome) and its prevention in selected rural area at Kanpur, UP.

OBJECTIVES

1. To assess the basic knowledge of farmers regarding OOTS and its prevention before the intervention in selected rural area at Kanpur.
2. To evaluate the effectiveness of nurse led education on OOTS as measured by gain in knowledge.
3. To find out the association between pre-test knowledge score of farmers regarding OOTS with their selected socio-demographic variables.

HYPOTHESIS

H01-There was no significant evidence between pre-test and post-test knowledge score regarding OOTS and its prevention among farmers.

H02- There was no significance association between the pre-test knowledge score among farmers regarding Organic dust toxic syndrome and its prevention.

H1- There was a significant difference between the pre-test and post-test in knowledge score regarding OOTS and its prevention among farmers.

H2- There was a significant association between the pre-test knowledge score regarding OOTS and its prevention among farmers.

RESEARCH APPROACH

The research approach for the present study is quantitative evaluative research approach.

RESEARCH DESIGN

The research design adopted for the current study was a quasi-experimental (one group

pre-test & post-test research design).

RESEARCH SETTING

In this study the setting was conducted in Bhawanipur of Kanpur, UP.

RESEARCH VARIABLE

The type of variables identified in this study:

INDEPENDENT VARIABLES:

Nurse led education rendered by researcher to the farmers on preventive measure of OOTS.

DEPENDENT VARIABLES:

Knowledge of farmers on OOTS is the dependent variable in this study.

DEMOGRAPHIC VARIABLES:

The demographic variables are- Age, Gender, Type of family, Food habit, Educational status, Previous knowledge, Source of information regarding health risk related to exposure of organic dust.

POPULATION

Population for present study was farmers of selected rural area of Kanpur, UP.

TARGET POPULATION:

In this study the target population includes farmers of selected rural area at Kanpur, UP.

ACCESSIBLE POPULATION:

In present study the accessible population includes farmers of Bhawanipur, Kanpur, UP.

SAMPLE

Farmers at selected rural area of Kanpur, UP was the accessible population in this study.

SAMPLE SIZE:

The sample size is the number of people

who participate in the study. The sample size in the present study was 60 farmers.

SAMPLING TECHNIQUE:

In this study, non- probability convenience Technique was used.

CRITERIA

INCLUSION CRITERIA:

The farmers:

- From the selected rural area of Kanpur, UP.
- Who are available at the time of data collection.
- Both male and female.

EXCLUSION CRITERIA:

- Farmers who are not be willing to participate in the study.
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DESCRIPTION OF RESEARCH

TOOL:

On the basis of developed framework to achieve the objectives of the study, A self-structured knowledge questionnaire was prepared to assess the effectiveness of nurse led education programme on knowledge regarding ODTs and its

prevention among farmers at selected rural area, Kanpur UP. The tools was prepared in English and Hindi validated by the language expert.

The tool consists of two sections:

Section-A - Socio- Demographic variables.

Section-B - Self- Structured knowledge questionnaire.

RESULT AND FINDINGS

SECTION A:

The major findings of the present study were:

- Majority of farmers 22(36.67%) were in age group of 41 and above.
- Majority of farmers 38(63.33%) were females.
- Majority of farmers 44(73.33%) were from nuclear family.
- Majority of farmers 43(71.67%) takes vegetarian diet.
- Majority of farmers 22(36.67%) were from secondary education.
- Majority of farmers 23(38.33%) were no history of any disease.
- Majority of farmers 51(85 %) have no previous knowledge.

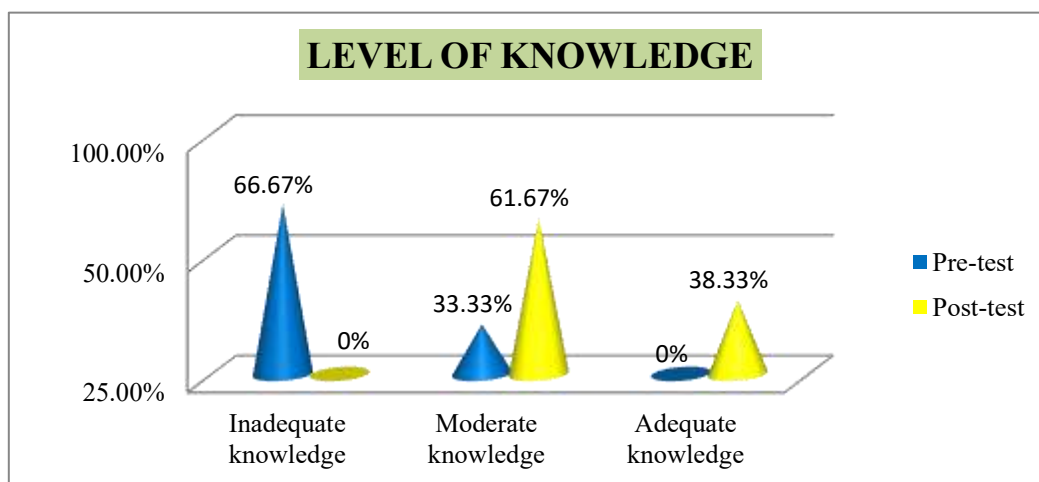
SECTION-B-

Distribution of farmers according to the pre-test and post-test level of knowledge on organic dust toxic syndrome.

n-60

S.No.	Level of knowledge	Pre-test	Post- test
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		F	%	F	%
1	Inadequate Knowledge	40	66.67%	0	0%
2	Moderate Knowledge	20	33.33%	37	61.67%
3	Adequate Knowledge	0	0%	23	38.33%
	TOTAL	60	100%	60	100%



SECTION-C

Comparison of pre-test and post-test level of knowledge regarding organic dust toxic syndrome among farmers.

n=60

S.No.	Knowledge Level	Mean	Mean Difference	Mean Percentage	Standard deviation
1	Pre-test	6.62	7.45	11.03%	3.29
2	Post-test	14.07		23.44%	3.43

SECTION- D

Effectiveness of nurse led education on knowledge regarding organic dust toxic syndrome among farmers.

n =60

S.N o.	Knowled ge Level	Mea n	Mean Difference	Standar d deviation	Paired “t” test	Lev el of Sign ificance
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1	Pre-test	6.62	7.45	3.29	23.22	0.05
2	Post-test	14.07		3.43		

SECTION- E-

Association between the level of Pre-test knowledge score with the selected demographic variables of farmers.

The result shows the association between pre-test knowledge score with selected demographic variables like Age in years, Gender, Religion, Class, Previous knowledge. Here, calculated value of chi square (X^2) was more than table value at 0.05 level of significance. So, there were significant association with age, Family type, Food pattern, Education Status, History of disease. Hence, positive hypothesis (H_1) was accepted and Null hypothesis (H_{01}) was rejected.

NURSING IMPLICATIONS

The findings of study have several implications which are discussed in these areas- Nursing research, Community Health Nursing, Nursing Education, Nursing Administration, Nursing Service and Recommendations.

Nursing Research

- Studying the impact of educational programs on respiratory function and overall quality of life. Research might explore the best preventive measure.
- Researching how various interventions affect patients' overall well-being, daily functioning, and ability to perform activities of daily living.

- Findings of this study will act as catalyst to carry out more extensive research on the largest samples in different settings.

Community health nursing

- Nurses have expanded and extended role of promotion Prevention, curative and rehabilitative of individual family and community level.
- Nurses can provide centralize approach regarding preventive measures of ODTs and it is taking action to impart knowledge to the community people.

Nursing education

- Nursing curriculum provide clinical experience regarding conduction of in various settings.
- Present study emphasises that the health education regarding promotion of preventive measures of ODTs is the key to prevent complications of in respiratory system . In order to educate the farmers, it is essential that nurses

should be competent and should have sound knowledge to improve the level of understanding on promotion of preventive measures of ODTS and an improved level of understanding can be reflected to farmers through education. Provision should be made for development of appropriate, chart papers, pamphlets, flashcards, leaflet for education of farmers in local education.

Nursing administration

- Nurses have to play multidimensional role and their skills have to be combined the specialised knowledge regarding preventive measures of ODTS.
- The nurse should participate in farmers awareness programs, through nurse led education and administration should take initiatives to organize educational program for health personnel regarding preventive measures of ODTS.

Nursing services

- Nurses play important role on promotive, curative and preventive aspects of health care system. The nurses should provide nurse led education on knowledge regarding preventive measure of ODTS.
- The nurses working in rural area should themselves provide health education to farmers, they should do nurse led education among farmers.

- The findings of the study can be disseminated to motivate nurses to plan for nurse led education on knowledge regarding preventive measures of ODTS.

RECOMMENDATIONS

- On the basis of the findings of the study following recommendations put forward for further research.
- A similar study can be replicated on large samples to generalize the findings.
- A similar study can be conducted in other rural area.
- A similar study can be conducted by using true- experimental research approach.
- Can be better to have as exploratory study.

CONCLUSION

The present study was aimed to assess the effectiveness of nurse led education on knowledge regarding preventive measures of organic dust toxic syndrome. The relevant data was collected and analysed statistically based on the objective of the study. In pre-test, knowledge regarding ODTS among the farmers 40(66.67%) had inadequate level of knowledge, 20(33.33%) had moderate level of knowledge, 0(0%) had adequate level of knowledge. In post-test among the subject 0(0%) had inadequate level of knowledge, 37(61.67%) had moderate level of knowledge, 23(38.33%) had adequate level of knowledge.

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