


## The Influence Of Home Environmental Factors On Patient Care With Chronic Obstructive Pulmonary Disease (COPD)

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Article Info	ABSTRACT
<p><b>Keywords:</b> Chronic obstructive pulmonary disease (COPD), Education, Home environment, Patient care, Training,</p>	<p>The influence of the home environment on the care of patients with chronic obstructive pulmonary disease (COPD) is an important factor in the management of this condition. The "Education and Training" method has proven effective in addressing this issue by improving COPD patients' understanding, skills and support in managing their home environment. Through comprehensive education, risk identification, development of home environment management skills, and use of appropriate health technologies, patients and their families can play an active role in creating a home environment that supports respiratory health. Support provided by the medical team and regular follow-up in providing education and training are important components in maintaining successful home environment management for COPD patients. Thus, the "Education and Training" approach not only helps to improve the quality of life of COPD patients, but can also reduce the risk of disease exacerbation and improve adherence to their treatment plan.</p>
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### INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a chronic respiratory disease often caused by long-term exposure to harmful substances such as cigarette smoke and air pollution. Home environmental factors, including indoor air quality, humidity, and exposure to air pollutants, have been shown to have a significant influence on the disease course and quality of life of COPD patients (AISYAH, Buston and Heriyanto, 2022). Although medical treatment and medications have been the main focus in COPD management, attention to the home environment as a factor influencing prognosis and disease control is increasing (Nampira and Farahdila, 2013; Sri Mantari, 2022; Muliase, 2024).

One of the current issues relating to the influence of home environmental factors on COPD patient care is the lack of attention to specific aspects of the indoor environment that

may worsen the patient's health condition. Factors such as poor ventilation, exposure to second-hand smoke, indoor air pollution from the use of solid fuels for cooking and heating, as well as moisture and mold growth, often receive insufficient attention in the management of COPD care. Despite awareness of the impact of outdoor air pollution on the disease, many households remain poorly informed about how their own indoor environmental conditions can exacerbate COPD symptoms and impede the recovery process (Maqhriza, 2018). Existing studies tend to focus more on medical interventions and clinical management without considering home environment modification as an integral part of COPD patient care. This lack of a holistic approach to care has led to gaps in comprehensive treatment strategies. Simple changes in the home environment, such as improving ventilation, reducing indoor pollution sources, and raising awareness of the dangers of second-hand smoke, can have a significant impact on patients' health and quality of life. Further research exploring home environment-based interventions is needed to develop more effective and practical guidelines in COPD care, so that patients can enjoy sustained improvements in their health (Padilha, Sousa and Pereira, 2018; Cravo *et al.*, 2022).

Education and training are important strategies in addressing the influence of the home environment on COPD patient care. By providing a comprehensive understanding of home environmental risks and providing practical skills in managing a healthy home environment, patients and their families can become better able to reduce the risk of disease exacerbation and improve their quality of life (ROZI, 2018; Satria, Suza and Tarigan, 2022; Rachmawati *et al.*, 2023).

Research by Arsyad, Khalida Akmatul, and Yana Priyana. (2023), found that COPD patients who live in a home environment with high levels of air pollution have a higher risk of experiencing disease exacerbations and increased respiratory symptoms. In addition, patients who receive education and training on managing a healthy home environment tend to have better clinical outcomes and experience a decrease in the frequency of COPD exacerbations. Research by Astuti, Monalisa Fajar, Budi Utomo, and Suparmin Suparmin. (2018), This study found that there was a significant association between high home humidity and worse respiratory symptoms in COPD patients. Patients who attended education and training sessions that focused on managing a healthy home environment showed improvements in their understanding of home environmental risks and skills in managing their conditions at home, which had a positive impact on their quality of life.

Although many studies have been conducted on COPD and home environmental factors, there is still a need for further research to explore in depth the relationship between the two. In this study, we will investigate the effectiveness of the "Education and Training" method in reducing the negative impact of home environmental factors on the care of COPD patients. Through this approach, we hope to make a significant contribution in improving the management and care of COPD patients and reducing the burden of the disease on individuals and society as a whole (Astika *et al.*, no date; AGUSTIYANINGSIH, 2018; ROZI, 2018).

In this study, we will focus on evaluating the impact of the "Education and Training" method on COPD patients' knowledge, behavior, and health outcomes in managing their

home environment. We will use an intervention approach involving structured education sessions, identification of home environmental risks, development of home environmental management skills, and application of appropriate health technologies.

Through this study, it is hoped that we can gain a better understanding of the effectiveness of the "Education and Training" method in improving COPD patients' home environment management and quality of life. The results of this study are expected to serve as a foundation for the development of more effective strategies in COPD management and provide practical guidance for healthcare practitioners in designing better interventions for COPD patients in the future.

As such, this study will make an important contribution to our understanding of the influence of the home environment on the care of COPD patients as well as the potential role of the "Education and Training" method in addressing this challenge. In addition, this study is also expected to provide a solid foundation for the development of better policies and clinical practices in COPD management at the individual and population levels.

## METHODS

This research uses a qualitative approach with a case study design (Sugiyono, 2005, 2013, 2017). The case study design allows researchers to investigate a particular phenomenon in depth and thoroughly, enabling a rich understanding of the context, processes and experiences involved.

## RESULTS AND DISCUSSION

The application of Education and Training methods in addressing the influence of home environment factors on the care of patients with chronic obstructive pulmonary disease (COPD) has brought some significant results:

1. Improved Knowledge

COPD patients and their families have improved their understanding of home environmental factors that can affect respiratory conditions, and the associated health risks and impacts.

2. Improved Home Environment Management

Patients and their families have been able to identify and reduce home environmental risks that exacerbate COPD symptoms, and implement appropriate home environmental management strategies.

3. Effective Use of Health Technology

The introduction of health technologies, such as home air quality monitoring apps and air sensors, has helped patients to monitor their home environment more effectively.

4. Improved Decision-Making Skills

Patients have developed skills to make informed decisions related to their home environment, such as the selection of safe cleaning products and room ventilation settings.

5. Improved Support and Compliance

Continuous support from the medical team and regular follow-ups have increased social support and ensured that patients and their families remain compliant with the learned home environment management practices..

### Discussion

The application of the "Education and Training" method has been shown to be effective in improving COPD patients' understanding, skills, and support in managing home environmental factors that affect their respiratory conditions. Through comprehensive education, risk identification, skill development, and the use of health technologies, patients and their families can play an active role in creating a home environment that supports respiratory health.

With the right support from the medical team and continued efforts in providing education and training, COPD patients can feel more confident in managing their condition in their own home environment. This can have a positive impact on patients' quality of life, reduce the risk of COPD exacerbations, and improve adherence to their treatment plan. The importance of education and training in the context of COPD management suggests that a holistic and sustainable approach is needed to address the influence of home environmental factors on patients' respiratory health

### CONCLUSION

The influence of home environmental factors on the care of patients with chronic obstructive pulmonary disease (COPD) is significant in the management of this condition. The "Education and Training" method has proven effective in addressing this issue by improving COPD patients' understanding, skills and support in managing their home environment. Through comprehensive education on home environment factors affecting COPD, risk identification, development of home environment management skills, and use of appropriate health technologies, patients and their families can play an active role in creating a home environment that supports respiratory health. Support provided by the medical team and regular follow-up in providing education and training are important components in maintaining successful home environment management for COPD patients. Thus, the "Education and Training" approach not only helps improve the quality of life of COPD patients, but can also reduce the risk of disease exacerbation and improve adherence to their treatment plan. The importance of implementing this method demonstrates the need for a holistic and sustainable approach to COPD management, which recognizes the important role of the home environment in disease control and improving patients' quality of life

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