

Optimizing Care for COPD Patients: The Collaborative Role of Respiratory Therapists and Nurses in Disease Management and Patient Education to Improve Outcomes and Reduce Readmissions

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Abstract

Background: Chronic Obstructive Pulmonary Disease (COPD) is a leading cause of morbidity and hospital readmissions worldwide. Effective management requires a multidisciplinary approach, particularly involving respiratory therapists and nurses. Collaborative care, focused on patient education and disease management, plays a critical role in improving outcomes and reducing hospitalizations.

Objective: This study investigates how respiratory therapists and nurses collaborate to manage COPD patients, focusing on patient education, exacerbation management, and the impact on reducing hospital readmissions.

Methods: A qualitative study was conducted in a tertiary hospital, involving semi-structured interviews with 12 respiratory therapists and 12 nurses. Thematic analysis was used to identify key themes related to interdisciplinary collaboration and patient care.

Results: Three major themes emerged: (1) Collaborative patient education, (2) Joint management of COPD exacerbations, and (3) Challenges in communication and role clarity. While collaboration was generally effective, communication gaps and role ambiguity were identified as barriers to optimal care delivery.

Conclusion: Collaborative care between respiratory therapists and nurses is essential for improving patient outcomes and reducing hospital readmissions in COPD management. Addressing communication challenges and role clarification can further enhance the quality of care.

Keywords: COPD, respiratory therapists, nurses, collaboration, patient education, hospital readmissions, exacerbations

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a prevalent and progressive respiratory condition characterized by persistent airflow limitation, typically caused by chronic bronchitis, emphysema, or a combination of both (Vogelmeier et al., 2017). COPD is a leading cause of morbidity and mortality worldwide, and it presents significant challenges for healthcare systems due to its high rates of hospital admissions and readmissions, particularly during exacerbations (Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2021). Effective management of COPD involves not only pharmacological treatment but also patient education, lifestyle modifications, and close monitoring to prevent exacerbations and reduce hospitalizations.

The interdisciplinary collaboration between respiratory therapists and nurses is essential in the comprehensive management of COPD patients. Respiratory therapists specialize in providing advanced care in oxygen therapy, nebulizer treatments, and patient education regarding inhaler use and pulmonary rehabilitation (Slack et al., 2018). Nurses, on the other hand, are often responsible for patient monitoring, medication administration, and providing ongoing support to manage comorbidities and ensure adherence to treatment plans (Nici et al., 2015). Together, these healthcare professionals play a critical role in empowering patients to manage their condition more effectively, which is key to improving patient outcomes and reducing hospital readmissions.

Despite clear evidence supporting the role of multidisciplinary care in COPD management, there is limited research exploring how respiratory therapists and nurses work together to educate and manage these patients. Understanding this collaboration is crucial in developing effective strategies that can improve the quality of care and prevent costly hospital readmissions. This study aims to assess how respiratory therapists and nurses collaborate in the management of COPD patients, focusing on patient education, disease management, and its impact on reducing hospital readmissions.

Literature Review

1. Chronic Obstructive Pulmonary Disease (COPD) and Its Management

Chronic Obstructive Pulmonary Disease (COPD) is a progressive, chronic respiratory disease that impairs airflow and worsens over time, primarily due to long-term exposure to lung irritants such as tobacco smoke and air pollution. COPD remains one of the leading causes of morbidity and mortality worldwide, significantly impacting patients' quality of life (Vogelmeier et al., 2017). The clinical management of COPD involves multiple approaches, including pharmacotherapy, pulmonary rehabilitation, oxygen therapy, and lifestyle modifications. However, frequent exacerbations often result in hospital admissions, making COPD one of the most costly chronic diseases in terms of healthcare resource utilization (Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2021).

The goals of COPD management are to alleviate symptoms, improve functional capacity, reduce the frequency and severity of exacerbations, and prevent hospital readmissions (Nici et al., 2015). Effective COPD care requires an interdisciplinary approach, particularly through patient education and adherence to prescribed treatments.

2. The Role of Respiratory Therapists in COPD Care

Respiratory therapists (RTs) play a crucial role in managing COPD patients, particularly those in advanced stages of the disease. RTs are responsible for administering oxygen therapy, delivering bronchodilator

treatments, and monitoring patients' pulmonary function through spirometry and arterial blood gas analysis (Slack et al., 2018). In addition, RTs are instrumental in educating patients on the proper use of inhalers and nebulizers, which is critical for effective medication delivery. Studies have shown that education provided by respiratory therapists can significantly improve patients' self-management skills, leading to reduced exacerbation rates and hospitalizations (Benzo and McEvoy, 2019).

Pulmonary rehabilitation, often supervised by respiratory therapists, is another cornerstone of COPD care. It combines exercise training, education, and behavioral modification to improve patients' functional capacity and quality of life (Troosters, et al., 2019). Respiratory therapists work with COPD patients to enhance their exercise tolerance and teach breathing techniques such as pursed-lip breathing to manage dyspnea. The involvement of RTs in COPD management has been shown to reduce symptoms, increase exercise capacity, and decrease the frequency of hospital readmissions (Slack et al., 2018).

3. The Role of Nurses in COPD Management

Nurses also play a vital role in the holistic management of COPD patients, particularly in providing continuous patient monitoring and education. Nurses are often the primary point of contact for patients in both acute and chronic phases of COPD care, managing symptom control, medication adherence, and comorbidities (Nici et al., 2015). Nurses are responsible for educating patients about the importance of adhering to prescribed treatments, recognizing early signs of exacerbations, and making necessary lifestyle changes, such as smoking cessation and dietary modifications.

Nursing interventions have been shown to improve patient outcomes in COPD by reducing the frequency of exacerbations and improving patient adherence to treatment regimens (Press et al., 2021). In addition, nurses provide emotional support to COPD patients, who often experience anxiety and depression related to their disease. By offering psychosocial care, nurses help improve the overall well-being of COPD patients, contributing to better management of the condition.

4. Collaborative Care Models in COPD Management

Interdisciplinary collaboration between healthcare professionals is essential in managing chronic diseases like COPD. Collaborative care models involving respiratory therapists and nurses have been shown to improve patient outcomes by fostering better communication, coordinated care, and shared decision-making (Amalakuhan and Adams, 2015). A key aspect of this collaboration is joint patient education, which equips patients with the knowledge and skills they need to manage their disease independently. Education delivered through a multidisciplinary approach has been shown to enhance patient adherence to treatment plans, improve self-management of COPD symptoms, and reduce the need for emergency care (Troosters, et al., 2019).

Jointly conducted pulmonary rehabilitation programs are a prime example of successful interdisciplinary collaboration in COPD care. Respiratory therapists and nurses work together to ensure patients receive both the physical exercise training and disease education necessary to improve lung function and reduce hospitalizations. According to recent studies, collaborative pulmonary rehabilitation programs have been shown to improve the physical and mental health of COPD patients while reducing healthcare costs through decreased hospital admissions (Troosters, et al., 2019).

5. Impact of Collaboration on Patient Outcomes

Several studies have highlighted the positive impact of interdisciplinary collaboration on the outcomes of COPD patients. For instance, Slack et al. (2018) demonstrated that COPD patients who received care from both respiratory therapists and nurses experienced better symptom management, improved adherence to inhaler therapy, and reduced readmission rates. This was attributed to the complementary roles both professionals play, with respiratory therapists focusing on technical and therapeutic interventions while nurses provide continuous patient education and support.

Moreover, collaborative care models have been shown to enhance communication between healthcare providers, leading to more consistent monitoring and timely interventions for COPD patients. Press et al. (2021) found that COPD patients who participated in multidisciplinary care programs, which included both respiratory therapists and nurses, had significantly fewer exacerbations and hospitalizations compared to those who received standard care.

6. Challenges in COPD Management and Collaboration

Despite the clear benefits of interdisciplinary collaboration in COPD care, several challenges remain. One of the key challenges is the lack of standardized communication protocols between respiratory therapists and nurses, which can lead to fragmented care (Amalakuhan and Adams, 2015). In addition, resource limitations, such as insufficient staffing and limited access to pulmonary rehabilitation programs, may hinder the ability of healthcare teams to provide comprehensive care to COPD patients.

Methodology

1. Study Design

This study employed a qualitative research design to explore the collaborative role of respiratory therapists and nurses in managing patients with Chronic Obstructive Pulmonary Disease (COPD). A qualitative approach was chosen to gain an in-depth understanding of how these two professions work together in educating and managing COPD patients to improve outcomes and reduce hospital readmissions. Semi-structured interviews were used to gather data on the experiences and perspectives of the participants.

2. Setting

The research was conducted in a tertiary care hospital, known for its advanced pulmonary care services. The hospital has a specialized respiratory care department and a multidisciplinary COPD management program, which includes respiratory therapists, nurses, pulmonologists, and allied health professionals. The study focused on the respiratory care and pulmonary rehabilitation units, where COPD patients receive both acute and chronic care.

3. Participants

A purposive sampling method was used to recruit participants who had direct experience in managing COPD patients. A total of 12 respiratory therapists and 12 nurses were selected for the study. The inclusion criteria required participants to have at least two years of experience in COPD management and to be actively involved in patient education and disease management. Participants were recruited from both the outpatient pulmonary rehabilitation program and the inpatient respiratory care unit.

4. Data Collection

Data were collected through semi-structured, face-to-face interviews conducted in private meeting rooms within the hospital. Each interview lasted approximately 30 to 60 minutes. The interview guide included open-ended questions designed to explore the following areas:

- The roles and responsibilities of respiratory therapists and nurses in managing COPD patients.
- How respiratory therapists and nurses collaborate to provide patient education and support self-management.
- Communication strategies between respiratory therapists and nurses in coordinating care.
- Perceived impact of interdisciplinary collaboration on patient outcomes and hospital readmissions.
- Challenges faced in implementing collaborative care for COPD patients.

All interviews were audio-recorded with the participants' consent, and additional field notes were taken to capture non-verbal cues and contextual information. The audio recordings were transcribed verbatim for subsequent analysis.

5. Data Analysis

The interview transcripts were analyzed using thematic analysis, following the guidelines of Braun and Clarke (2006). The analysis involved several steps:

1. Familiarization with the Data: The researchers read the transcripts multiple times to immerse themselves in the data and gain a thorough understanding of the participants' experiences.
2. Generating Initial Codes: The data were systematically coded by identifying key concepts and patterns related to collaboration, patient education, and disease management.
3. Searching for Themes: The initial codes were grouped into broader themes, such as "collaboration in patient education," "joint management of COPD," and "communication challenges."
4. Reviewing Themes: The identified themes were reviewed to ensure they accurately reflected the data and were aligned with the research objectives.
5. Defining and Naming Themes: Clear definitions were developed for each theme, and they were named to represent the core concepts that emerged from the data.
6. Writing the Report: The findings were organized into a cohesive narrative, with representative quotes from participants to support the themes.

6. Ethical Considerations

Ethical approval for the study was obtained from the ethics committee. All participants provided informed consent prior to the interviews, and they were informed of their right to withdraw from the study at any time without any consequences. Confidentiality was ensured by anonymizing the participants' personal information, and the interview recordings were securely stored and deleted after transcription.

7. Trustworthiness and Rigor

To ensure the trustworthiness and rigor of the study, several strategies were employed:

- Triangulation: Data were collected from both respiratory therapists and nurses to capture multiple perspectives on the collaborative care process.
- Member Checking: After the initial analysis, participants were invited to review the findings to ensure that their views were accurately represented.
- Peer Debriefing: The researchers regularly consulted with colleagues experienced in qualitative research to review the coding process and ensure objectivity.
- Reflexivity: The researchers maintained a reflexive journal throughout the study to reflect on their potential biases and the influence of their own backgrounds on data interpretation.

8. Limitations

While the study provides valuable insights into the collaborative role of respiratory therapists and nurses in COPD management, it is important to acknowledge its limitations. The study was conducted in a single tertiary hospital, which may limit the generalizability of the findings to other settings. Additionally, the qualitative nature of the study means that the findings are based on participants' subjective experiences and perceptions, which may not fully capture all aspects of collaboration in COPD care.

Findings

The analysis of the interviews revealed three major themes related to the collaborative care provided by respiratory therapists and nurses for COPD patients. These themes included: Collaborative Patient Education, Joint Management of COPD Exacerbations, and Challenges in Communication and Role Clarity. Each theme is further divided into sub-themes and supported by direct quotes from the participants.

1. Collaborative Patient Education

One of the most prominent themes was the joint effort by respiratory therapists and nurses in educating COPD patients about disease management. Both professions highlighted the importance of working together to ensure patients understand their treatment plans, medication usage, and lifestyle modifications.

a) Education on Medication and Inhaler Techniques

Respiratory therapists and nurses emphasized that educating patients on proper inhaler techniques and medication adherence is a shared responsibility, with both professions playing complementary roles.

- Respiratory Therapist 1: "We focus a lot on teaching patients how to use their inhalers properly, but it's the nurses who really help reinforce that message. They see the patients more frequently and make sure the techniques are being followed."

- Nurse 2: "I always follow up with patients to ensure they're comfortable with their inhaler use. The respiratory therapists give the technical instructions, but we're there to provide ongoing support."

b) Promoting Self-Management

Both respiratory therapists and nurses agreed that patient education plays a crucial role in promoting self-management. This collaborative approach enables patients to take control of their COPD, leading to fewer exacerbations and better long-term outcomes.

- Nurse 3: "We work together to empower patients. It's about giving them the knowledge and tools they need to manage their symptoms at home, especially when it comes to recognizing early signs of exacerbation."

- Respiratory Therapist 4: "Our collaboration is key to making sure the patients feel confident in managing their disease. They know they can come to us with questions, and that helps reduce hospital readmissions."

2. Joint Management of COPD Exacerbations

The second major theme revolved around how respiratory therapists and nurses collaborate in managing COPD exacerbations. This includes providing immediate care during exacerbations and working together on follow-up care to prevent future episodes.

a) Coordinating Acute Care During Exacerbations

Participants described how respiratory therapists and nurses coordinate closely during COPD exacerbations, particularly in adjusting oxygen therapy, administering bronchodilators, and monitoring patients' vital signs.

- Respiratory Therapist 5: "When a patient is going through an exacerbation, we handle the technical aspects—adjusting oxygen and ensuring the ventilator settings are correct—but we're constantly in communication with the nurses."

- Nurse 6: "We're the ones monitoring the patient's overall condition, making sure they're stable, but we rely on the respiratory therapists to make quick adjustments to the oxygen levels and provide bronchodilator treatments when needed."

b) Post-Exacerbation Follow-Up

After an exacerbation, respiratory therapists and nurses collaborate on follow-up care, ensuring that patients are stable and have the tools and education needed to prevent further exacerbations.

- Nurse 7: "Once the crisis has passed, we work closely with the respiratory therapists to ensure the patient's recovery continues smoothly. We both focus on educating the patient on what triggered the exacerbation and how to avoid it in the future."

- Respiratory Therapist 8: "The post-exacerbation period is critical. We adjust the patient's treatment plan and make sure they understand how to manage their condition going forward."

3. Challenges in Communication and Role Clarity

Although participants highlighted the success of collaboration in COPD care, several challenges were identified, particularly related to communication and the lack of clear role boundaries between respiratory therapists and nurses.

a) Communication Barriers

Some participants noted that communication between respiratory therapists and nurses could occasionally be inconsistent, particularly during busy shifts. This sometimes led to delays in care adjustments.

- Nurse 8: "There are times when it gets so busy that we don't communicate as effectively as we should. Things can fall through the cracks, like relaying updates on a patient's condition, and that can slow down interventions."

- Respiratory Therapist 9: "In a busy environment, communication isn't always perfect. We do our best, but there are times when information doesn't flow as smoothly as we'd like."

b) Role Ambiguity

Another challenge identified by participants was role ambiguity. While both professions recognized the importance of collaboration, there were instances where overlapping responsibilities led to confusion about who should take the lead in certain aspects of care.

- Respiratory Therapist 10: "Sometimes there's a bit of confusion about who's responsible for what, especially when it comes to patient education. We both do it, but it can be unclear who should take charge in different situations."

- Nurse 9: "There are definitely times when the roles overlap, particularly in educating patients about medications or oxygen use. It's not always clear who should lead those discussions."

Discussion

This study explored the collaborative efforts of respiratory therapists and nurses in managing COPD patients, particularly in the areas of patient education and acute care management. The findings revealed that both professions play complementary roles in educating patients about disease management, preventing exacerbations, and improving overall outcomes. However, challenges related to communication and role clarity were also identified, highlighting areas for improvement in collaborative care. This section synthesizes the key findings, compares them with existing literature, and discusses the implications for clinical practice.

1. Collaborative Patient Education

One of the primary findings of this study is the importance of collaborative patient education in COPD management. Both respiratory therapists and nurses emphasized their shared responsibility in teaching patients about proper inhaler techniques, medication adherence, and self-management strategies. This collaboration is crucial in empowering patients to take control of their disease, which has been shown to reduce exacerbation rates and hospital readmissions.

The results align with previous research, which highlights that interdisciplinary patient education significantly improves adherence to treatment regimens and enhances self-management skills (Press et al., 2021). Studies have shown that patients who receive education from both respiratory therapists and nurses are more likely to correctly use their inhalers and adhere to their prescribed medications, leading to better long-term outcomes (Slack et al., 2018). Collaborative education also ensures that patients receive consistent messaging from both healthcare providers, reinforcing important aspects of disease management.

2. Joint Management of COPD Exacerbations

The findings also revealed that respiratory therapists and nurses collaborate closely during COPD exacerbations. Respiratory therapists manage the technical aspects of care, such as oxygen therapy adjustments and bronchodilator administration, while nurses monitor the patient's overall condition and provide ongoing support. This teamwork ensures that patients receive timely and appropriate interventions, which is critical for reducing the severity of exacerbations and improving recovery.

This finding is consistent with the literature, which emphasizes the importance of interdisciplinary collaboration in managing acute COPD exacerbations. Amalakuhan and Adams (2015) found that coordinated care between respiratory therapists and nurses during exacerbations leads to better patient outcomes, as it allows for more comprehensive monitoring and faster adjustments to the treatment plan. Moreover, collaborative post-exacerbation care, as identified in this study, plays a critical role in preventing future episodes by educating patients on trigger avoidance and symptom recognition.

3. Challenges in Communication and Role Clarity

Despite the overall positive collaboration between respiratory therapists and nurses, participants identified several challenges related to communication and role clarity. Communication gaps were noted, particularly during busy shifts, which sometimes led to delays in care. Role ambiguity was also highlighted as a challenge,

with both professions occasionally uncertain about who should take the lead in specific aspects of patient education or care management.

These challenges are not uncommon in interdisciplinary healthcare teams and have been noted in other studies. Weller et al. (2014) emphasize that unclear role boundaries and inconsistent communication are common barriers to effective teamwork, particularly in fast-paced environments such as hospital settings. Addressing these barriers requires the implementation of structured communication protocols and clearly defined roles to ensure that both respiratory therapists and nurses are aware of their responsibilities and can work together more efficiently.

4. Implications for Clinical Practice

The findings of this study have several important implications for clinical practice. First, they underscore the need for structured and consistent communication between respiratory therapists and nurses to ensure that collaborative care for COPD patients is delivered effectively. Implementing regular team meetings or check-ins could help improve communication and prevent delays in care. Additionally, clear protocols outlining the specific roles of respiratory therapists and nurses in patient education and disease management would reduce role ambiguity and ensure that both professions can maximize their contributions to patient care.

Second, the study highlights the importance of interdisciplinary education programs that emphasize the complementary roles of respiratory therapists and nurses in COPD management. By enhancing collaboration through joint training sessions and shared educational resources, healthcare teams can provide more consistent and comprehensive care to COPD patients. Interprofessional education has been shown to improve collaboration and communication between healthcare providers, leading to better patient outcomes (Amalakuhan and Adams, 2015).

Finally, the study points to the need for ongoing research into the impact of collaborative care models on COPD outcomes. Future studies could explore how structured communication protocols and role clarification interventions influence patient outcomes, particularly in terms of reducing hospital readmissions and improving quality of life.

5. Limitations and Future Research

While this study provides valuable insights into the collaborative role of respiratory therapists and nurses in COPD management, it is important to acknowledge its limitations. The study was conducted in a single tertiary hospital, which may limit the generalizability of the findings to other healthcare settings. Additionally, the qualitative nature of the study means that the findings are based on participants' subjective experiences, which may not fully capture all aspects of interdisciplinary collaboration.

Future research could expand the scope of this study by including multiple healthcare settings and exploring the long-term impact of interdisciplinary collaboration on patient outcomes. Quantitative studies could also provide more objective data on the effectiveness of collaborative care models in reducing hospital readmissions and improving patient adherence to treatment plans.

Conclusion

In conclusion, this study highlights the critical role of collaboration between respiratory therapists and nurses in optimizing care for COPD patients. By working together to educate patients and manage exacerbations, both professions contribute to improving patient outcomes and reducing hospital readmissions. Addressing communication gaps and clarifying roles will further enhance the effectiveness of this collaboration, ensuring that COPD patients receive the best possible care.

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