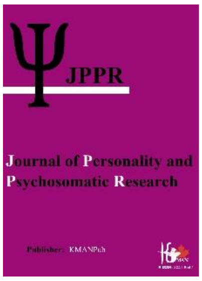
Journal Website

Article history:
Received 11 May 2024
Revised 15 June 2024
Accepted 24 June 2024
Published online 01 July 2024

Journal of Personality and Psychosomatic Research

Volume 2, Issue 3, pp 27-34



E-ISSN: 3041-8542

The Role of Health Beliefs in Managing Chronic Respiratory Diseases

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Article Info

Article type:
Original Research

How to cite this article:
Yang, Y., McDonnell, M., Seyed Alitabar, S.H., & Şahin, A. (2024). The Role of Health Beliefs in Managing Chronic Respiratory Diseases. *Journal of Personality and Psychosomatic Research, 2*(3), 27-34.
https://doi.org/10.61838/kman.jppr.2.3.5

ABSTRACT

The objective of this study was to explore the role of health beliefs in managing chronic respiratory diseases (CRDs) through qualitative analysis of patients' perceptions, treatment beliefs, and self-management practices. This qualitative research utilized semi-structured interviews with 20 participants diagnosed with CRDs. Participants were selected using purposive sampling, and data were collected until theoretical saturation was reached. Interviews were transcribed verbatim and analyzed using NVivo software, following a thematic approach to identify key themes and subthemes related to health beliefs and disease management. The analysis revealed three main themes: perceptions of the disease, beliefs about treatment, and self-management practices. Key findings included that 70% of participants had misconceptions about their disease, 65% experienced significant emotional responses such as anxiety and depression, and 80% reported varying levels of trust in healthcare providers. Medication beliefs significantly influenced adherence, with 75% expressing concerns about side effects and dependency. Support systems played a crucial role, with 85% of participants relying on family and community resources for managing their condition. Health beliefs play a critical role in the management of CRDs, influencing patients' perceptions, treatment adherence, and self-management practices. Misconceptions, emotional responses, and trust in healthcare providers were significant factors affecting disease management. Enhancing patient education, addressing emotional well-being, and leveraging support systems are essential for improving health outcomes in CRD patients. Culturally tailored interventions and systemic healthcare changes are recommended to address barriers to effective self-management.

Keywords: *chronic respiratory diseases, health beliefs, disease management, self-management, patient education, qualitative research, COPD, asthma, healthcare providers, cultural competence.*

1. Introduction

Chronic respiratory diseases (CRDs), including chronic obstructive pulmonary disease (COPD), asthma, and other long-term respiratory conditions, represent a significant public health burden worldwide. The prevalence and impact of these diseases have been documented extensively, highlighting the critical need for effective management strategies to improve patients' quality of life and reduce healthcare costs (Soriano et al., 2020).

The management of CRDs is complex and multifaceted, requiring a comprehensive approach that addresses both medical and psychosocial aspects. The Chronic Care Model (CCM) has been widely recognized as an effective framework for managing chronic diseases, including COPD. This model emphasizes the importance of informed, activated patients and a prepared, proactive healthcare team, supported by evidence-based decision-making and patient-centered care (Adams et al., 2007).

In Saudi Arabia, the management of CRDs, particularly COPD, faces several challenges, including limited healthcare resources, cultural factors, and variability in clinical practices (Alsubaiei et al., 2018). Understanding the factors influencing disease management in different cultural contexts is essential for developing tailored interventions that meet the specific needs of diverse populations. The importance of cultural competence in healthcare delivery cannot be overstated, as it significantly impacts patient engagement and health outcomes (Shaw et al., 2008).

The prevalence of CRDs in low-resource settings, such as rural Malawi, underscores the need for effective community-based interventions. Banda et al. (2017) highlighted the high community prevalence of chronic respiratory symptoms, which has important implications for health policy and resource allocation (Banda et al., 2017). Similarly, Gizaw et al. (2016) identified significant respiratory health challenges among cement factory workers in Ethiopia, emphasizing the role of occupational health in the broader context of CRD management (Gizaw et al., 2016).

Patient education and self-management are critical components of effective CRD management. Health literacy, defined as the ability to obtain, process, and understand basic health information, plays a crucial role in patients' ability to manage their conditions (Kale et al., 2015). Low health literacy is associated with poorer health outcomes, increased hospitalizations, and higher healthcare costs. Therefore, enhancing health literacy among patients with CRDs is a priority for healthcare providers.

The COVID-19 pandemic has further complicated the management of CRDs. Pan et al. (2020) discussed the role of primary care in China in responding to COVID-19, highlighting the additional strain on healthcare systems and the need for integrated care models (Pan et al., 2020). Haq et al. (2023) reported an increase in chronic respiratory symptoms in Khyber Pakhtunkhwa, Pakistan, during the pandemic, illustrating the long-term impact of COVID-19 on respiratory health (Haq et al., 2023).

Pulmonary rehabilitation is a cornerstone of CRD management, offering significant benefits in terms of symptom relief, functional improvement, and quality of life. However, access to pulmonary rehabilitation is often limited, particularly for underserved populations. Gardiner and Singh (2022) examined the challenges of inequality in pulmonary rehabilitation, which have been exacerbated by the COVID-19 pandemic. Ensuring equitable access to these vital services is essential for improving health outcomes across diverse populations (Gardiner & Singh, 2022).

In addition to medical interventions, lifestyle modifications play a significant role in managing CRDs. Nutrition and physical activity are critical components of self-management, yet they are often overlooked in clinical practice. Hakami et al. (2018) emphasized the importance of integrating nutrition into CRD self-management, noting that both patients and healthcare professionals recognize its value. However, there are significant gaps in nutrition literacy and support (Hakami et al., 2018).

The role of health beliefs in disease management has been extensively studied across various chronic conditions. In COPD, beliefs about illness and medication significantly influence self-management behaviors (Kale et al., 2015). For example, patients who believe that their condition is controllable are more likely to adhere to treatment and engage in proactive self-management (Kale et al., 2015). Conversely, negative beliefs about medication, such as concerns about side effects, can lead to poor adherence and suboptimal outcomes (Benzo & McEvoy, 2019).

The effectiveness of self-management interventions is also influenced by the presence of comorbidities, which are common among patients with CRDs. Chau et al. (2019) investigated the impact of different comorbidities on health-related quality of life among respiratory patients in Vietnam, finding that comorbid conditions significantly affected patients' perceptions and management of their respiratory diseases. This highlights the need for holistic, patient-centered approaches that address the full spectrum of patients' health needs (Chau et al., 2019).

Engaging ethnically diverse populations in self-management interventions poses unique challenges. Maddocks et al. (2023) reviewed strategies for engaging these populations, emphasizing the importance of culturally tailored interventions that respect and incorporate patients' beliefs and practices. This is particularly relevant in multicultural societies, where standardized approaches may not be effective (Maddocks et al., 2023).

Guidelines for the management of COPD, such as those developed by the Global Initiative for Chronic Obstructive Lung Disease (GOLD), provide a comprehensive framework for diagnosis, treatment, and prevention (Mirza et al., 2018; Rabe et al., 2007). These guidelines are continually updated to reflect the latest evidence and best practices. However, translating guidelines into clinical practice remains a challenge, particularly in resource-limited settings.

In the Middle East and North Africa, the BREATHE study provided valuable insights into the management of COPD, highlighting significant regional variations in clinical practices and patient outcomes (Idrees et al., 2012). Addressing these disparities requires targeted interventions that consider the specific healthcare contexts and patient populations in these regions.

The role of pulmonary rehabilitation in improving outcomes for patients with COPD has been well-documented. Reardon et al. (2005) demonstrated the benefits of pulmonary rehabilitation in terms of symptom management, functional improvement, and overall quality of life. However, access to these services remains limited, particularly for marginalized populations (Reardon et al., 2005).

Health coaching delivered by respiratory therapists or nurses has shown promise in enhancing self-management abilities among patients with severe COPD. Benzo and McEvoy (2019) conducted a large randomized study demonstrating the positive impact of health coaching on patients' self-management skills and overall health outcomes. This approach aligns with the principles of the CCM, emphasizing patient empowerment and proactive disease management (Benzo & McEvoy, 2019).

The association between health literacy and health outcomes underscores the importance of tailored educational interventions. Kale et al. (2015) found that higher health literacy levels were associated with better illness and medication beliefs among COPD patients, leading to improved self-management behaviors. Enhancing health literacy through targeted interventions can help bridge the gap between clinical recommendations and patient behaviors (Kale et al., 2015).

In summary, the effective management of CRDs requires a comprehensive, patient-centered approach that addresses both medical and psychosocial aspects of care. Understanding the role of health beliefs in disease management is crucial for developing tailored interventions that improve patient outcomes. This article explores the role of health beliefs in managing CRDs, focusing on patient perceptions, treatment beliefs, and self-management practices.

2. Methods and Materials

2.1. Study Design and Participants

This qualitative research aimed to explore the role of health beliefs in managing chronic respiratory diseases. The study utilized semi-structured interviews to gather in-depth insights from participants, ensuring a comprehensive understanding of their health beliefs and management strategies.

Participants were selected through purposive sampling to include individuals diagnosed with chronic respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), and other long-term respiratory conditions. Inclusion criteria required participants to be adults aged 18 and above, with a confirmed diagnosis of a chronic respiratory disease for at least one year. Exclusion criteria included individuals with cognitive impairments that could hinder their ability to participate in an interview.

2.2. Measures

2.2.1. Semi-Structured Interview

Data were collected through semi-structured interviews, which provided the flexibility to explore specific topics while allowing participants to express their thoughts and experiences freely. An interview guide was developed based on existing literature and theoretical frameworks related to health beliefs and chronic disease management. Key areas of focus included:

Participants' understanding and perceptions of their respiratory condition

Beliefs about the causes and consequences of their illness

Attitudes towards treatment and self-management practices

Experiences with healthcare providers and support systems

Interviews were conducted in a private setting, either in person or via a secure video conferencing platform, to ensure participants' comfort and confidentiality. Each interview lasted approximately 45 to 60 minutes and was audio-recorded with the participants' consent.

2.3. Data Analysis

Interviews were transcribed verbatim, and the data were analyzed using NVivo software, a qualitative data analysis tool that facilitates the organization and coding of textual data. The analysis followed a thematic approach, which involved:

Familiarization: Researchers immersed themselves in the data by reading and re-reading the transcripts to gain a thorough understanding.

Coding: Initial codes were generated by identifying significant statements and phrases related to health beliefs and disease management.

Theme Development: Codes were grouped into themes that represented broader patterns and insights within the data.

Review and Refinement: Themes were reviewed and refined to ensure they accurately captured the participants' experiences and perspectives.

The process of data collection and analysis continued until theoretical saturation was achieved, meaning no new themes or insights were emerging from the data. This ensured a comprehensive understanding of the role of health beliefs in managing chronic respiratory diseases.

Informed consent was obtained from all participants, ensuring they were fully aware of the study's purpose, procedures, and their right to withdraw at any time. Confidentiality and anonymity were maintained throughout the research process, with all identifying information removed from the transcripts and reports.

To minimize bias, researchers maintained reflexive journals throughout the study, documenting their reflections and potential influences on the data collection and analysis process. Regular peer debriefing sessions were held to discuss emerging findings and ensure the credibility and trustworthiness of the research.

3. Findings and Results

The study included 20 participants diagnosed with chronic respiratory diseases. The demographic characteristics varied across age, gender, and educational background. The age range of participants was from 30 to 75 years, with a mean age of 52 years. The gender distribution included 12 females and 8 males, reflecting a slight predominance of female participants. In terms of educational attainment, 5 participants had completed primary education, 7 had completed secondary education, and 8 had attained higher education degrees. The majority of participants (15 out of 20) were living in urban areas, while the remaining 5 resided in rural settings. Additionally, the duration of living with a chronic respiratory disease varied among participants, ranging from 2 to 20 years, with a median duration of 10 years.

Table 1

The Results of Thematic Analysis

Categories	Subcategories	Concepts
Perceptions of the Disease	Understanding of Disease	Knowledge of condition, Misconceptions, Sources of information
	Impact on Daily Life	Daily limitations, Role restrictions, Social impact
	Emotional Responses	Fear and anxiety, Depression, Coping mechanisms
	Perceived Severity	Perception of risk, Vulnerability, Control over condition
	Causation Beliefs	Genetic beliefs, Environmental factors, Behavioral causes
Beliefs about Treatment	Medication Beliefs	Necessity of medication, Medication routines, Trust in pharmaceuticals
	Alternative Therapies	Herbal remedies, Homeopathy, Acupuncture
	Healthcare Provider Trust	Communication with doctors, Trust in expertise, Consistency of care
	Adherence Challenges	Forgetfulness, Side effects, Complexity of regimen
	Information Sources	Internet, Support groups, Healthcare professionals
	Side Effect Concerns	Adverse reactions, Long-term effects, Management strategies
	Treatment Efficacy	Perceived benefits, Success stories, Comparative efficacy
Self-Management Practices	Lifestyle Adjustments	Dietary changes, Exercise routines, Smoking cessation
	Support Systems	Family support, Peer groups, Community resources
	Symptom Monitoring	Symptom tracking apps, Diary keeping, Regular check-ups
	Barriers to Self-Management	Time constraints, Financial issues, Access to resources
	Motivational Factors	Personal goals, Health priorities, Incentives

3.1. *Perceptions of the Disease*

Understanding of Disease: Participants exhibited varying levels of knowledge about their chronic respiratory conditions. Some demonstrated a clear understanding, while others held misconceptions. Common sources of information included healthcare providers, online resources, and support groups. One participant noted, "I thought asthma was just about wheezing and didn't realize how much it could affect my daily life until my doctor explained it more clearly."

Impact on Daily Life: The chronic respiratory disease significantly impacted participants' daily lives, causing limitations in physical activities and social roles. Many expressed frustration over not being able to engage in activities they once enjoyed. "I can't run around with my grandchildren anymore, which is really hard for me," shared one individual.

Emotional Responses: Emotional responses to living with a chronic respiratory disease ranged from fear and anxiety to depression. Participants often felt overwhelmed by their condition but developed coping mechanisms over time. As one participant explained, "I used to be terrified of every little symptom, but now I try to stay calm and manage my stress better."

Perceived Severity: The perceived severity of their condition varied among participants, influencing their sense of vulnerability and control. Some felt at constant risk, while others believed they had their condition well-managed. "I always feel like I'm one step away from a serious attack," said one participant, highlighting their ongoing sense of risk.

Causation Beliefs: Beliefs about the causes of their disease included genetic predispositions, environmental factors, and personal behaviors such as smoking. One participant stated, "I always blamed myself for smoking, but my doctor said it could also be the pollution around here."

3.2. *Beliefs about Treatment*

Medication Beliefs: Beliefs about medication were mixed. Some participants saw medication as essential, while others were skeptical about long-term use. "I take my inhaler every day because I know it's necessary," said one participant. In contrast, another mentioned, "I worry about becoming too dependent on it."

Alternative Therapies: Participants explored various alternative therapies, including herbal remedies, homeopathy, and acupuncture, often seeking these as complements to conventional treatment. One participant shared, "I've tried acupuncture, and it seems to help with my breathing."

Healthcare Provider Trust: Trust in healthcare providers was crucial for effective management. Positive experiences were marked by good communication and consistent care. "I trust my doctor completely because she takes the time to listen to me," noted one participant. Conversely, inconsistency in care led to mistrust and frustration.

Adherence Challenges: Challenges in adhering to treatment regimens included forgetfulness, side effects, and the complexity of the medication regimen. One participant admitted, "Sometimes I forget to take my meds, especially when I'm feeling okay."

Information Sources: Participants relied on a variety of sources for information, including the internet, support groups, and healthcare professionals. The reliability of these sources was critical for their confidence in managing their condition. "I get most of my information online, but I always check with my doctor to make sure it's accurate," said one participant.

Side Effect Concerns: Concerns about side effects were common, with participants worrying about both immediate and long-term consequences. "The side effects are sometimes worse than the symptoms," lamented one participant.

Treatment Efficacy: Beliefs about treatment efficacy were influenced by perceived benefits, success stories, and comparisons with others' experiences. "I've seen improvements, but I know others who didn't respond as well," noted one individual.

3.3. *Self-Management Practices*

Lifestyle Adjustments: Participants made various lifestyle adjustments, including dietary changes, exercise routines, and smoking cessation, to manage their conditions better. "Quitting smoking was the hardest but the best thing I did for my health," shared one participant.

Support Systems: The role of support systems, including family, peer groups, and community resources, was emphasized. These systems provided emotional and practical support. One participant explained, "My family is my rock; I couldn't manage without their help."

Symptom Monitoring: Monitoring symptoms through apps, diaries, and regular check-ups was a common practice among participants. "I track my symptoms daily using an app, which helps me stay on top of things," said one participant.

Barriers to Self-Management: Barriers to effective self-management included time constraints, financial issues, and limited access to resources. "It's hard to find the time and money for all the treatments and appointments," one participant highlighted.

Motivational Factors: Motivational factors such as personal goals, health priorities, and incentives played a significant role in self-management. "Staying healthy for my kids is what keeps me going," explained one participant.

4. Discussion and Conclusion

The findings of this study underscore the significant role that health beliefs play in managing chronic respiratory diseases (CRDs). The qualitative analysis revealed key themes related to perceptions of the disease, beliefs about treatment, and self-management practices, all of which are crucial for understanding patient behaviors and outcomes.

Participants' understanding of their disease varied widely, influenced by their access to information and the quality of communication with healthcare providers. This aligns with findings by Adams et al. (2007) who emphasized the importance of informed, activated patients in the Chronic Care Model (Adams et al., 2007). Misconceptions about CRDs can lead to poor management and exacerbation of symptoms. For instance, the belief that CRDs are solely caused by smoking overlooks other environmental and genetic factors, leading to potential stigmatization and guilt among patients (Banda et al., 2017).

The emotional impact of living with a CRD, including anxiety and depression, was a significant theme. This is consistent with the work of Chau et al. (2019), who found that comorbid conditions, including mental health disorders, significantly impact the quality of life for respiratory patients (Chau et al., 2019). Addressing these emotional responses is critical, as they can influence adherence to treatment and overall disease management.

Medication beliefs varied among participants, with some expressing concerns about dependency and side effects. This echoes the findings of Kale et al. (2015), who reported that health literacy significantly affects medication beliefs and adherence among COPD patients (Kale et al., 2015). Participants who viewed their medication as essential were more likely to adhere to their treatment regimen, highlighting the need for effective patient education.

The exploration of alternative therapies, such as herbal remedies and acupuncture, reflects a desire among patients for holistic care. This is supported by Alsubaiei et al. (2018), who noted the influence of cultural practices on the management of CRDs in Saudi Arabia (Alsubaiei et al., 2018). Trust in healthcare providers was another critical factor; positive interactions and consistent care fostered better treatment adherence, which is crucial for managing chronic conditions effectively (Benzo & McEvoy, 2019).

Self-management practices varied widely, influenced by individual beliefs and external support systems. Effective self-management is crucial for maintaining health and preventing exacerbations, as highlighted by Rabe et al. (2007) in their guidelines for COPD management. Lifestyle adjustments, such as dietary changes and exercise, were commonly reported, underscoring the holistic approach required for effective CRD management (Hakami et al., 2018).

Support systems, including family and community resources, played a vital role in helping participants manage their conditions. This finding aligns with Maddocks et al. (2023), who emphasized the importance of engaging ethnically diverse populations in self-management interventions. Cultural competence and tailored interventions are necessary to address the unique needs of different populations (Maddocks et al., 2023).

Barriers to self-management, such as time constraints and financial issues, were significant challenges for many participants. Gardiner and Singh (2022) highlighted the exacerbation of these challenges during the COVID-19 pandemic, which has strained healthcare resources and increased the burden on patients (Gardiner & Singh, 2022). Addressing these barriers requires systemic changes to healthcare delivery and increased support for vulnerable populations.

The themes identified in this study are consistent with existing literature on CRD management. The importance of health literacy, patient education, and supportive healthcare relationships has been well-documented (Adams et al., 2007; Kale et al., 2015). This study adds to the body of knowledge by highlighting the nuanced ways in which health beliefs influence self-management practices and treatment adherence.

The exploration of alternative therapies and the impact of cultural beliefs on disease management are particularly relevant in diverse healthcare settings. Alsubaiei et al. (2018) and Maddocks et al. (2023) both underscore the need for culturally tailored interventions that respect patients' beliefs and practices (Alsubaiei et al., 2018; Maddocks et al., 2023). This study supports these findings, emphasizing the need for holistic, patient-centered care.

The role of emotional responses in disease management is another critical area highlighted by this study. Chau et al. (2019) and Benzo and McEvoy (2019) both noted the impact of mental health on chronic disease management, underscoring the importance of addressing psychological well-being as part of comprehensive care (Chau et al., 2019; Maddocks et al., 2023).

One limitation of this study is the small sample size, which may not be representative of the broader population of patients with CRDs. Additionally, the use of semi-structured interviews, while providing in-depth insights, may be subject to interviewer bias and the variability of participants' self-reports. Future studies should aim to include larger, more diverse samples and consider mixed-methods approaches to validate and extend these findings.

Future research should explore the impact of targeted educational interventions on health literacy and disease management outcomes in patients with CRDs. Longitudinal studies could provide valuable insights into how health beliefs evolve over time and influence long-term management practices. Additionally, there is a need for more research on the integration of alternative therapies with conventional medical treatments, particularly in culturally diverse populations.

Healthcare providers should prioritize patient education and clear communication to address misconceptions about CRDs and improve health literacy. Developing culturally tailored interventions that respect and incorporate patients' beliefs and practices can enhance treatment adherence and overall disease management. Support systems, including family and community resources, should be leveraged to assist patients in their self-management efforts. Addressing barriers such as time constraints and financial issues through systemic healthcare changes is essential for supporting effective self-management practices.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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