

Coping Strategies for Anxiety in Chronic Respiratory Diseases in South Asia: A Scoping Review and Clinicians' Interviews

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Abstract

Anxiety is one of the most significant and prevalent comorbidities in Chronic Respiratory Diseases (CRDs), particularly among patients with asthma and chronic obstructive pulmonary disease (COPD). In Southeast Asia, its prevalence is especially high due to factors such as air pollution, poverty, and limited access to mental health care. Although substantial literature exists on the link between anxiety and CRDs, there is a notable gap in evidence related to coping strategies and nonpharmacological treatments for anxiety among these patients in the South Asian context. Addressing this gap is crucial to improving patient outcomes and holistic care. Therefore, this research focuses on mapping coping strategies for anxiety in CRDs in South Asia and exploring clinicians' experiences and perspectives regarding these approaches in Pakistan. This study employed a multimethod research design comprising a scoping review and qualitative clinician interviews. The scoping review was conducted to map existing evidence on coping strategies for anxiety in CRDs, following the JBI guidelines and PRISMA-ScR framework. In the second phase, semi-structured online interviews were carried out with clinicians in Pakistan to explore their experiences and perspectives on coping strategies for anxiety in patients with CRDs. The interview questions were informed by Lazarus and Folkman's (1984) stress and coping theory. Data from the interviews were analysed thematically, and the findings from both phases were integrated to identify areas of convergence and divergence. The final synthesis provided combined conclusions and recommendations for practice and future research.

This study highlights the urgent need for culturally informed, evidence-based approaches to manage anxiety among patients with CRDs in South Asia. The integration of scoping review findings and clinician perspectives revealed that effective coping strategies include cognitive behavioural therapy (CBT), yoga, meditation, music therapy, social support, and patient education. Clinicians emphasised the importance of tailoring these interventions to cultural norms, individual needs, and resource availability. Despite limitations such as the regional focus on Pakistan and the absence of direct patient input, this study contributes valuable insights that bridge research and practice. It underscores the need for region-specific policies, enhanced clinician training, and further patient-centred research to strengthen anxiety management and improve quality of life for individuals with CRDs in South Asia.

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Declaration

I declare that the work presented in this thesis is my own and has not been submitted for any other degree or qualification at Bournemouth University or any other institution.

All sources of information used in this research have been properly acknowledged and referenced. This thesis represents my original work carried out under the guidance of my supervisors at Bournemouth University.

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Abbreviations

CRDs	CRDs
COPD	Chronic obstructive pulmonary disease
LMICs	Low-income and Middle-income Countries
DSM	Diagnostic and Statistical Manual of Mental Disorders
CBT	Cognitive Behavioural Therapy
SSRIs	Selective Serotonin Reuptake Inhibitors
PMR	progressive muscle relaxation

Chapter 1: Introduction

1.1 Background

Breathing is something most people do without thinking, but for individuals with a chronic respiratory disease, it can become a daily struggle. The characteristic physiological manifestations of asthma and COPD include persistent cough, chest tightness, wheezing, and shortness of breath (Bakshi–et al., 2025). Imagine a person who experiences sudden breathlessness, recovers, yet remains constantly worried about the next attack. Despite this worry, non-adherence to inhaled medications is common in COPD (Chen et al., 2025), and patients often feel overwhelmed, with anxiety exacerbating the problem (Chen et al., 2025). Furthermore, the fear of judgment may prevent patients from seeking timely care or expressing distress, as stigma contributes to delays in treatment and poorer health outcomes (Malone et al., 2025). This combination of physical symptoms, psychological distress, and social stigma is a reality for many patients with asthma or COPD experiencing anxiety in Southeast Asian countries.

In 2021, CRDs (CRDs) accounted for an estimated 55.21 million cases, primarily due to asthma (37.86 million) and COPD (16.90 million) globally (Zhai et al., 2025). South Asian countries are characterised by high prevalence and heightened susceptibility to respiratory diseases such as COPD, TB, and asthma, with approximately one-tenth of the global asthma cases residing in India (Bishwajit et al., 2017). Although the prevalence of CRDs in the region is lower than in some other areas, South Asia experiences the highest mortality rates associated with these conditions (Labaki & Han, 2020). Rapid urbanisation and reliance on unclean fuels further worsen air pollution and COPD prevalence, underscoring the significant impact of CRDs in South Asia (Rana & Ghose, 2025). These statistics underscore the widespread impact of CRDs in South Asia.

1.2 Rationale

CRDs are relatively under-explored in relation to anxiety, particularly compared to more widely studied conditions such as cardiovascular diseases (Labaki & Han, 2020). Although anxiety is increasingly recognized among individuals with asthma and COPD, most research is from high-income countries (Husain et al., 2021), leaving a gap in understanding how patients in low- and middle-income regions, including South Asia, cope with anxiety. In South Asia, studies indicate a high burden of psychological distress. In Nepal, anxiety and depression are nearly three times more common in COPD patients than in the general population (Thapa et al., 2017), and in India, assessing depression, anxiety, and stress in COPD patients is crucial to improving quality of life (Kesavareddy, Manasasowmya, and Shankar, 2019). Evidence

suggests that individuals with asthma are at elevated risk for psychiatric disorders, notably anxiety, depression, and post-traumatic stress disorder, an association confirmed by a multicountry survey encompassing seventeen culturally and socioeconomically diverse nations (Rahman et al., 2021). Understanding these coping mechanisms in the regional context is essential for developing culturally sensitive interventions and improving patient outcomes.

1.3 Concept of Anxiety

Anxiety disorders are common comorbidities in individuals experiencing chronic stress (Yale Medicine, 2024). Stress is an inherent part of life that manifests through physical, psychological, and situational effects. In contrast, some stress can be beneficial; prolonged or chronic stress can become maladaptive, leading to anxiety and depression. (Ghasemi, 2024). Anxiety is interpreted in multiple ways depending on the clinical, psychological, or everyday context. According to the American Psychological Association, “an emotion characterized by apprehension and somatic symptoms of tension in which an individual anticipates impending danger, catastrophe, or misfortune” (American Psychiatric Association, 2013). According to ICD-11 (International Statistical Classification of Diseases and Related Health Problems), *Anxiety or Fear-Related Disorders* are characterized by excessive fear and anxiety and related behavioural disturbances, with symptoms severe enough to result in significant distress or impairment in functioning. *Anxiety or Fear-Related Disorders* include Generalized Anxiety Disorder, Panic Disorder, Agoraphobia, Specific Phobia, Social Anxiety Disorder, Separation Anxiety Disorder, Selective Mutism, and other Specified Anxiety or Fear-Related Disorders. (World Health Organization, 2019). The concept of anxiety in this research is based on ICD11. Adopting ICD-11 enables this research to align with international standards (Stein *et al.*, 2020), encompass the full range of anxiety disorders relevant to respiratory patients (Bhattacharyya *et al.*, 2022), and ensure comparability with recent studies.

1.4 Chronic Respiratory Diseases

According to the WHO, CRDs are persistent conditions that impact the lungs and airways. Examples of CRDs include asthma and chronic obstructive pulmonary disease. These are among the most common noncommunicable diseases (NCDs). Asthma usually starts in childhood and is marked by reversible airway constriction, while COPD primarily affects adults and involves consistent and progressive respiratory symptoms (World Health Organization, 2019).

COPD is a progressive respiratory disorder caused by smoking, air pollution, and biomass fuel exposure, leading to substantial health, psychosocial, and economic burdens. South Asia, with rapid urbanisation, dense populations, widespread poverty, and reliance on unclean fuels, is a hotspot for air pollution, exacerbating COPD prevalence (Rana and Ghose, 2025). COPD,

with a 7.2% prevalence in low- and middle-income countries, imposes physical limitations, mental health challenges, and financial strain through medical costs and lost income (Clark, Kochovska & Currow, 2022). Asthma prevalence is lower in low and Middle-income Countries (LMICs) than in high-income countries. Still, the burden is higher, with most deaths, school/work absences, and emergency visits occurring there. In Asia-Pacific LMICs, high population density, financial instability, and socio-cultural factors worsen management, with up to 80% treatment non-adherence, often due to financial barriers (Yasaratne, 2023).

Asthma and COPD management combines pharmacological treatments, such as bronchodilators and anti-inflammatories, with lifestyle interventions like physical activity and smoking cessation. However, 22–78% of patients are non-adherent—failing to start, use correctly, or continue therapy—limiting real-world effectiveness (Jansen *et al.*, 2021).

1.5 Anxiety in CRDs

Anxiety is highly prevalent in COPD, particularly among women and smokers (Wu *et al.*, 2025), and is associated with increased exacerbations and hospitalizations, highlighting the need for individualized interventions (Wu *et al.*, 2025). Nearly half of individuals with chronic obstructive pulmonary disease (COPD) fail to adhere to prescribed treatments and present with anxiety and depression as frequent comorbidities (Volpato *et al.*, 2021).

The common manifestations of anxiety and depression in COPD include fatigue, weight changes, sleep disturbances, agitation, irritability, and difficulties with concentration (Bhattacharyya *et al.*, 2022). COPD patients with anxiety and/or depressive disorder comorbidities have more symptoms of dyspnoea and poorer quality of life compared to COPD patients without these comorbidities (Dua *et al.*, 2018). A significant proportion of COPD patients experience high levels of anxiety (70.4%) and depression (67.2%) (Ayub *et al.* 2024). A collaborative study between the pulmonology and psychiatry departments in Pakistan found that patients with asthma are at a higher risk of developing anxiety and depression, highlighting the need to address these conditions alongside asthma management. (Ali *et al.*, 2020). The risks of coexisting anxiety symptoms and comorbid anxiety disorders were significantly higher in asthma patients than in non-asthma controls. (Ye *et al.*, 2021). Depression and anxiety are linked to higher asthma risk, poorer symptom control, and lower chances of clinical remission, while psychological distress in asthmatic patients also increases the risk of developing comorbid allergic conditions (Chen *et al.*, 2025). But another study highlights that Patients with COPD and TB are at a significantly higher risk of anxiety and depression compared to those with asthma. Routine mental health screening and psychosocial support interventions are essential for managing CRDs, thereby improving patient well-being and treatment adherence. (Khanum and Basit, 2025). Depression and anxiety often occur together. A study from Pakistan found that anxiety was more common than depression among COPD patients (Siddiqui *et al.*, 2021).

1.6 Coping Strategies for Anxiety in CRDs

Management of anxiety in CRDs requires an integrated approach combining pharmacological and non-pharmacological strategies. Pharmacological options, such as benzodiazepines (e.g., lorazepam) or selective serotonin reuptake inhibitors (SSRIs), may be prescribed to reduce acute anxiety and support symptom control, while pulmonary rehabilitation, breathing retraining, and cognitive-behavioural therapy (CBT) offer non-pharmacological support. (Bhattacharyya, 2022)

The literature highlights that management is multifaceted, with responsibility shared between healthcare professionals and patients. Orem's Self-Care Continuum provides a useful framework to conceptualise this division: healthcare professionals may provide supportive interventions (e.g., prescribing medication, initiating therapy, or facilitating rehabilitation), while patients contribute through self-care practices such as smoking cessation, relaxation techniques, adherence to treatment regimens, and lifestyle modifications (Malekzadeh et al., 2018).

Living with COPD is unique to each individual, and self-management depends on personal beliefs, experiences, and social support. Primary care and community practitioners can provide tailored, collaborative support that builds on patients' existing strategies and addresses their psychosocial needs (Russell *et al.*, 2018)

This study highlights coping strategies for anxiety based on Lazarus and Folkman's (1984) stress-coping appraisal theory, categorizing them into two types: emotion-focused and problem-focused strategies. Despite a lot of studies on the incidence and prevalence of anxiety in Asthma or COPD patients, there is a dearth of work on coping strategies, specifically in the South Asian context.

1.7 Aim and Objectives

This study and dissertation aim to identify, describe, and report different coping strategies for anxiety in patients with chronic respiratory diseases in Southeast Asian countries like Pakistan, India, Bangladesh, etc. This research has the following two objectives:

- 1: To map the available evidence of coping strategies for the management of anxiety in individuals with CRDs in South Asia
- 2: To explore the perspectives and experiences of clinicians regarding patients with CRDs with anxiety

1.8 Significance

This study, conducted as part of a master's by Research, holds considerable significance for the field. It addresses a critical gap in global health literature by exploring the intersection of mental health and CRDs. The findings are expected to inform clinicians and provide insights

about culturally and contextually appropriate strategies for supporting the mental well-being of CRD patients, thereby promoting holistic care. Moreover, the study provides direction for future research by identifying underexplored areas and has the potential to influence public health strategies and policy decisions aimed at integrating mental health into chronic disease management in low- and middle-income countries.

1.9 Structure of Thesis

This thesis comprises seven chapters that collectively present the study's aims, methodology, findings, and conclusions, utilising two approaches: a scoping review and a qualitative study. This first introductory chapter outlined the research topic, relevant literature, rationale, aim and objectives, and the significance of the study. The second literature review chapter examines existing studies on coping strategies for anxiety, highlighting key research gaps, particularly within the South Asian context. In the third chapter, scoping review methodology and findings are presented, followed by the fourth chapter, which is dedicated to explaining the methodological justification for qualitative research, along with a detailed description of the method. The fifth chapter is devoted to detailing the results of the interviews and data analysis, and the sixth chapter is the integration of findings from both methods. The thesis concludes with a final seventh chapter summarising the outcomes and implications, followed by appendices.

Chapter 2: Literature Review

2.1 Introduction

The literature review was conducted at the outset of this research to synthesise existing knowledge, identify gaps, and contextualise the study (Chigbu et al. 2023). This chapter establishes the context by discussing definitions and concepts of Anxiety and its relation to CRDs, the impact of anxiety on these conditions, the prevalence of anxiety in CRDs within South Asia, and the coping strategies for anxiety in CRDs both globally and regionally. The review also outlines the theoretical framework underpinning this study, namely Lazarus and Folkman's (1984) stress and coping model.

2.2 Definitions and Conceptualisation of Anxiety

Anxiety is a universal adaptive response, whereas anxiety disorders represent pathological variations distinguished by their focus and understood through continuum, evolutionary, and biopsychosocial perspectives (Silverman & van Schalkwyk, 2019). The meaning of anxiety is often unclear, as it overlaps with fear. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM), fear is a reaction to immediate danger, while anxiety is worry about a future threat, but the two often mix, such as in panic attacks (McNaughton, 2018). The diagnostic criteria of anxiety include excessive worry lasting at least six months, difficulty controlling it, and three or more symptoms such as restlessness, fatigue, poor concentration, irritability, muscle tension, or sleep disturbance (Adwas et al 2019).

Patients with chronic illness often fear symptom progression or recurrence, which is a normal response but can become excessive and impair daily life. Distinguishing normal health worries from disorders like illness anxiety or somatic symptom disorder is essential to avoid overdiagnosis and stigma (Lebel et al 2020). In this study, anxiety is defined according to ICD-11 criteria for Anxiety and Fear-Related Disorders, which include Generalized Anxiety Disorder, Panic Disorder, Agoraphobia, Specific Phobia, Social Anxiety Disorder, Separation Anxiety Disorder, Selective Mutism, and Other Specified Anxiety or Fear-Related Disorders. ICD-11 also recognises obsessive-compulsive disorder (OCD) and Health Anxiety (Illness Anxiety Disorder) as related but separate conditions (ICD 11, WHO,2024)

2.3 Effects of anxiety in CRDs

Patients with CRDs often experience breathlessness-triggered anxiety and depression, which often remain undiagnosed, worsening outcomes, increasing hospitalizations, and reducing quality of life (Aldabayan et al., 2022). In COPD, higher levels of anxiety and depression occur, which are associated with more frequent exacerbations, increased rehospitalizations, and a

higher risk of mortality (Rahi et al., 2023). Effective COPD management depends on patient self-care, adherence, and behaviour, and anxiety in COPD can worsen health outcomes by decreasing treatment adherence and engagement in pulmonary rehabilitation (Volpato et al., 2021). Inhaler medication adherence is also greatly impacted by anxiety in COPD patients (Chen et al., 2025).

Anxiety, characterized by emotional tension, physiological symptoms like muscle tightness, sweating, and rapid breathing, and cognitive effects such as poor concentration and racing thoughts, is more prevalent in asthmatic patients along with depression, both of which can lead to poorer outcomes including reduced quality of life, frequent hospital visits, severe symptoms, higher corticosteroid use, nonadherence to therapy, and even life-threatening attacks (Ciprandi et al., 2015). Anxiety is the strongest predictor of breathlessness in asthma, more closely linked to asthma-related health outcomes than lung function and can heighten symptom perception while impairing cognition and coping behaviours (Ye et al., 2021).

2.4 Southeast Asian / South Asian Culture and Health Issues

Mental health is vital for well-being, yet in many Southeast Asian countries like Indonesia, it remains stigmatized, with collectivist cultures emphasizing family and community support but also creating social pressures that can harm individuals, highlighting the need for culturally sensitive mental health systems (Viridiyanti, 2025). Timely help-seeking for mental health is crucial, as early interventions reduce suffering and prevent chronic illness, yet many people underutilize available services. The process involves recognizing the problem, deciding to seek help, reaching out, and using the services (Badran et al. 2025). In South Asia, mental health is poorly understood, with many seeing mental illness as personal weakness, and stigma, cultural beliefs, and superstitions often lead people to use faith healing or traditional medicine instead of proper care, while shortages of professionals, limited funding, and low government and private investment have prompted policies and initiatives to address these gaps (Kabir et al., 2024).

2.5 Incidence and Prevalence of Anxiety in CRDs in South Asia

A study in Pakistan highlights that depression and anxiety are highly prevalent among ICU patients with CRDs (CRDs), affecting over 80% and up to 100% of patients, respectively (Mustafa et al., 2025). Socioeconomic status is strongly linked to depressive and anxiety symptoms in CRDs, which are more common in socially disadvantaged groups with lower income, unemployment, or less education (Zhou et al., 2017). In India, psychiatric comorbidities like anxiety are more common in COPD patients than in those with bronchial asthma, with 32.4% of COPD patients affected compared to 20.6% of asthma patients (Mahajan et al., 2018). In Nepal, a study reported a crude prevalence of anxiety of 22.7%, and anxiety and depression are among the most prevalent yet under-treated comorbidities in

patients with COPD, with relatively few prospective studies examining their diagnosis, management, and impact on patients' health status (Thapa et al., 2017). Using the Bangladeshi Anxiety Scale, asthma was found to be the strongest predictor, explaining 47.7% of stress variance and 40.8% of anxiety variance (Tany et al., 2017). Above all, studies highlight the high incidence and prevalence of anxiety in asthma and COPD.

2.6 Coping Strategies for Anxiety in CRDs

Despite the considerable impact of psychological comorbidities, both clinical practice and research in COPD have predominantly emphasised lung function, often overlooking psychological well-being (Usmani et al., 2018). In COPD, dyspnoea is strongly associated with anxiety, which can be addressed through pharmacological, non-pharmacological, and coping strategies. Interventions such as exercise training, pulmonary rehabilitation, self-management programs, and cognitive-behavioural therapy (CBT) have shown potential in alleviating symptoms; however, the sustainability of these benefits over the long term remains uncertain (Hanania, 2019). Selective serotonin reuptake inhibitors (SSRIs) have largely replaced tricyclic antidepressants, while CBT remains the primary psychological intervention, and pulmonary rehabilitation has also been shown to reduce anxiety and depression, underscoring the importance of developing personalised strategies to address these comorbidities (Tselebis et al., 2016). Building on the recognition that psychological well-being is a key determinant of disease management, asthma research has also begun to explore how patients cope with stress and anxiety. In this regard, Sagmen (2020) highlighted that their study was the first to investigate coping strategies in asthma, reporting that planning, religion, acceptance, and active coping were the most frequently employed methods, while substance use and behavioural disengagement were the least utilized. In 2014, evidence emphasised that pulmonary rehabilitation could reduce anxiety symptoms, while CBT provides modest benefits and may be more effective if integrated into multidisciplinary care, though this remains untested, while mindfulness-based therapies show potential in chronic conditions, but evidence in COPD is lacking, leaving optimal management strategies uncertain (Panagioti, 2014). Coping strategies for anxiety in CRDs remain a substantially underexplored area of research, with only five to six studies published in the past decade.

2.7 Gaps in the Literature

Although some studies have explored ways to manage anxiety in people with CRDs, most of these studies were done in Western countries and may not apply to South Asia. In South Asia, there is not enough research that focuses on how people with CRDs cope with anxiety in their daily lives. There is a noticeable lack of region-specific, large-scale, and high-quality research focusing explicitly on coping strategies for anxiety in this population. Most of the available

evidence comes from small studies, often with short durations and varied interventions, limiting generalizability and practical implementation in clinical settings.

Formal psychological interventions, including CBT or structured psychotherapy, are underexplored despite being recommended in clinical guidelines. Clinicians are often the first point of contact for COPD patients and play a crucial role in screening for and early detection of anxiety (Yohannes et al., 2018). There is also limited research capturing the lived experiences and perspectives of clinicians regarding anxiety management in CRDs within South Asia, which is essential for developing culturally responsive interventions. This study addresses these gaps by synthesizing available evidence, identifying under-researched areas, and informing future research.

2.8 Theoretical background

Lazarus and Folkman (1984) distinguished two primary categories of coping: problem-focused coping, which involves efforts to manage or alter the source of distress, and emotion-focused coping, which seeks to regulate the emotional responses elicited by the problem. Building on this conceptualization, their Ways of Coping Questionnaire (WCQ) further defines specific strategies, including planful problem-solving, confrontive coping, escape–avoidance, distancing, accepting responsibility, positive reappraisal, self-controlling, and seeking social support, encompassing both problem-focused and emotion-focused responses (Stanisławski, 2019). This framework underpins the theoretical basis of the present study on coping strategies for anxiety in CRDs.

Chapter 3: Scoping Review

3.1 Introduction

ICD-11 defines anxiety disorders as conditions of excessive fear and worry that disrupt functioning, including generalized anxiety disorder, panic disorder, agoraphobia, specific phobia, social anxiety disorder, separation anxiety disorder, selective mutism, and other specified fear-related disorders (WHO, 2019). Using this framework ensures international standards and relevance when examining anxiety in CRDs (Stein et al., 2020; Bhattacharyya et al., 2022). CRDs remain relatively underexplored in relation to anxiety compared to conditions such as cardiovascular disease (Labaki & Han, 2020). While anxiety is increasingly recognised in patients with asthma and COPD, most evidence comes from high-income countries (Husain et al., 2021), leaving a gap in understanding how patients in South Asia experience and cope with anxiety.

Anxiety and depression are common in patients with CRDs, often triggered by breathlessness and frequently undiagnosed, contributing to poorer outcomes and increased hospitalizations (Aldabayan et al., 2022; Rahi et al., 2023). In COPD and asthma, anxiety is linked to impaired symptom perception, reduced treatment adherence, more frequent hospital visits, and higher corticosteroid use (Volpato et al., 2021; Chen et al., 2025; Ciprandi et al., 2015). Notably, in asthma, anxiety serves as the strongest predictor of breathlessness, showing a stronger link to asthma-related outcomes than lung function itself. It can intensify symptom perception while impairing cognitive function and coping behaviours, underscoring the critical role of addressing anxiety in asthma management. (Ye et al., 2021). Management of anxiety in CRDs requires both pharmacological treatments, such as benzodiazepines or SSRIs, and nonpharmacological approaches, including pulmonary rehabilitation, breathing retraining, and CBT (Bhattacharyya, 2022).

Studies in South Asia indicate a high prevalence of anxiety and depression among patients with CRDs. In Pakistan, ICU patients with CRDs show rates of anxiety and depression up to 100% and 80%, respectively (Mustafa et al., 2025), while in India, psychiatric comorbidities are more common in COPD (32.4%) than asthma (20.6%) patients (Mahajan et al., 2018). In Nepal, anxiety prevalence among COPD patients is 22.7%, often underdiagnosed and undertreated (Thapa et al., 2017). In asthma, anxiety strongly predicts stress and symptom severity, explaining substantial variance in patient-reported outcomes (Tany et al., 2017). Overall, these studies highlight the significant burden of anxiety in asthma and COPD across South Asia.

Mental health remains highly stigmatized in many Southeast and South Asian countries, where collectivist cultures emphasizing group harmony, family reputation, and social conformity, along with cultural beliefs and misconceptions, often discourage timely help-seeking and promote reliance on faith healing or traditional medicine (Virdiyanti, 2025; Kabir et al., 2024). Despite the benefits of early intervention, underutilization of mental health services is common, compounded by shortages of professionals, limited funding, and low investment in mental health systems (Badran et al., 2025). This highlights the need for culturally sensitive mental health approaches in the region.

Although some research has examined anxiety management in CRDs, most studies are from Western countries and may not apply to South Asia. There is a lack of region-specific, largescale, high-quality studies on coping strategies, with existing evidence limited to small, shortterm, and varied interventions. Formal psychological interventions, such as CBT, remain underexplored despite guideline recommendations.

3.2 Rationale

A scoping review is a type of evidence synthesis that systematically maps the breadth of literature on a topic or concept, clarifies key definitions, and identifies important characteristics or factors, regardless of study type or source_(Pollock et al., 2024). Scoping reviews are designed to address exploratory questions by mapping the extent, range, and nature of available evidence across diverse sources and study designs. They provide a broad overview of a topic, allow for stakeholder engagement, and help identify knowledge gaps_(Mak & Thomas, 2022).

A scoping review was chosen for this study for two main reasons. First, the research question covers a broad topic that spans three interlinked areas: CRDs within medicine, anxiety within psychology, and coping strategies as non-pharmacological approaches. The evidence base is likely to be diverse in design, populations, and conceptual frameworks. In the South Asian context, where the burden of CRDs is high but research on their psychological impact and coping strategies is limited, this broad mapping is particularly important to capture the range of available knowledge.

Second, there is truly little existing research directly addressing coping strategies for anxiety in CRDs in South Asia. In areas where the evidence base is sparse or fragmented, a scoping review is more appropriate than a systematic review, as it allows for mapping and synthesising available evidence without requiring critical appraisal of study quality (Peters et al., 2020). This approach enables the identification of what is currently known, the gaps that remain, and priorities for future research and practice.

3.3 Objective of Scoping Review

The main objective of the review is to map the coping strategies for anxiety in individuals with CRDs, specifically in Asthma and COPD in South Asia, through existing literature.

3.4 Method

This scoping review was conducted following the Joanna Briggs Institute (JBI) methodology (Peters et al., 2020) and reported in accordance with the PRISMA-ScR checklist (Tricco et al., 2018). The review followed a structured process. The research question focused on coping strategies for anxiety in CRDs within South Asia. A comprehensive search across major databases and grey literature was conducted, and studies meeting the inclusion criteria were selected. Data were extracted using a standardised form, and the findings were descriptively analysed to identify coping strategies, patterns, and gaps in the literature.

3.4.1 Formulation of the Research Question

The process of developing the research question began with an initial review of the literature on anxiety and CRDs. This preliminary exploration highlighted the significant psychological burden experienced by individuals living with chronic respiratory conditions and the complex interplay between physical symptoms and mental health. While existing studies provided substantial evidence on the prevalence and impact of anxiety within this population, there was limited focus on how individuals manage or cope with this anxiety, particularly within the South Asian context.

This gap in the literature informed the formulation of the research question: *What coping strategies for anxiety in CRDs have been reported in the literature within South Asia?* By addressing this gap, the study aims to contribute new insights into culturally relevant coping mechanisms and provide a foundation for future research and clinical practice. Following the Joanna Briggs Institute (JBI) guidelines (Hadie, 2024), the review adhered to the Population, Concept, and Context (PCC) framework Table 1:

Population	Adults diagnosed with CRDs and anxiety
Concept	Coping strategies for anxiety within this population
Context	Studies conducted in South Asian countries, including Pakistan, India, Bangladesh, Iran, Sri Lanka, Nepal, and others

Table 1. PCC framework for Research Question

3.4.2 Inclusion and exclusion criteria

This review included studies focusing on adults aged 18 years and older who have been diagnosed with CRDs such as asthma and COPD, and who also experience anxiety according to the ICD-11 definition. The main interest was in coping strategies utilised by these individuals to manage anxiety. Studies that did not meet these criteria were excluded, including those published in languages other than English, research involving paediatric populations, and studies focused on acute respiratory conditions. Table 2 summarises the inclusion and exclusion criteria, highlighting the contextual focus of the review.

Inclusion	Exclusion
Age more than 18 (adults)	Children under 18 years
CRDs patients	Acute Respiratory Diseases
Experience anxiety with CRDs	CRD patients without Anxiety
English language	Other than English
South Asian context	Other than South Asia

Table 2. Inclusion and Exclusion criteria

3.4.3 Search Strategy

As recommended by JBI, a comprehensive search strategy was employed, consisting of three steps. Initially, a limited search was conducted on the EBSCO databases like PubMed, PsycINFO, Scopus, CINAHL and Web of Science using the title "Coping strategies for anxiety in CRDs in South Asia" to identify relevant literature. In the second step, a full search strategy was used with keywords and Boolean operators on all databases by EBSCO to identify published studies. For grey literature, Google Scholar and all local journals of Southeast Asian countries were screened. In the ultimate step, reference lists of all included studies were screened for additional relevant literature. In the final step, the reference list of studies was screened for additional relevant literature. Initially, search results were limited, then an improved search strategy was used. Included search terms were "Coping strategies", "non pharmacological or psychological interventions", "anxiety", "anxiety disorders", "fear related disorders", "CRDs", "long term respiratory diseases", "pulmonary diseases", "Asthma", "COPD", "south Asia", "south Asian countries", "Pakistan", "India", "Bangladesh", "Sri Lanka" and "Nepal". This review included peer-reviewed studies (quantitative, qualitative, and mixed methods), relevant reviews, and accessible grey literature (theses, reports, conference proceedings), while excluding opinion pieces or editorials without empirical data.

Only studies published in English were considered due to the feasibility and accessibility of translation resources. The search was initially restricted to the last 10 years. Given limited results and considerable evidence gaps, the timeframe was extended to the past 20 years and

subsequently to the past 30 years. When substantial gaps remained, restrictions were lifted, and studies from any publication year were considered. The full search strategy for the EBSCO database is given in table 3.

Search strategy for the EBSCO database	“Coping strategies” OR “non pharmacological strategies” OR “Psychological management” OR “Coping skills” AND “Anxiety” OR “Fear related disorders” OR “Generalized anxiety disorder” AND “Chronic respiratory diseases” OR “Pulmonary diseases” OR “Long term respiratory diseases” OR “Asthma” OR “COPD” AND “South Asia” OR “South Asian countries” OR “Pakistan” OR “India” OR “Bangladesh” OR “Sri Lanka” OR “Nepal”.
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Table 3. Search Strategy for EBSCO database highlighted with Boolean operators

3.4.4 Study Selection

Initially, all relevant articles were imported into EndNote for reference management. The screening process was conducted in two stages: first by reviewing titles and then by assessing full-text articles based on the inclusion criteria. The supervisors carried out pilot testing of the screening procedure. Lists of both included and excluded articles were shared for transparency. Any articles that were unclear or raised doubts during screening were discussed and resolved in consultation with the supervisors.

A total of 95 studies were identified, and 15 duplicates were removed. After screening the titles and abstracts, 25 studies met the inclusion and exclusion criteria. However, following full-text review, only 5 studies were finally included. During the selection process, studies were excluded for the following reasons: 1) seven studies discussed the relationship between CRDs and anxiety in a South Asian context but did not report coping strategies 2) eight studies examined coping strategies but were not situated within a South Asian context; 3) two studies addressed neither coping strategies nor the South Asian context; 4) two studies focused on chronic illness in general without specifically addressing CRDs. 5) one was a literature review including all countries. The study selection process is documented in the PRISMA flow diagram (Figure 1).

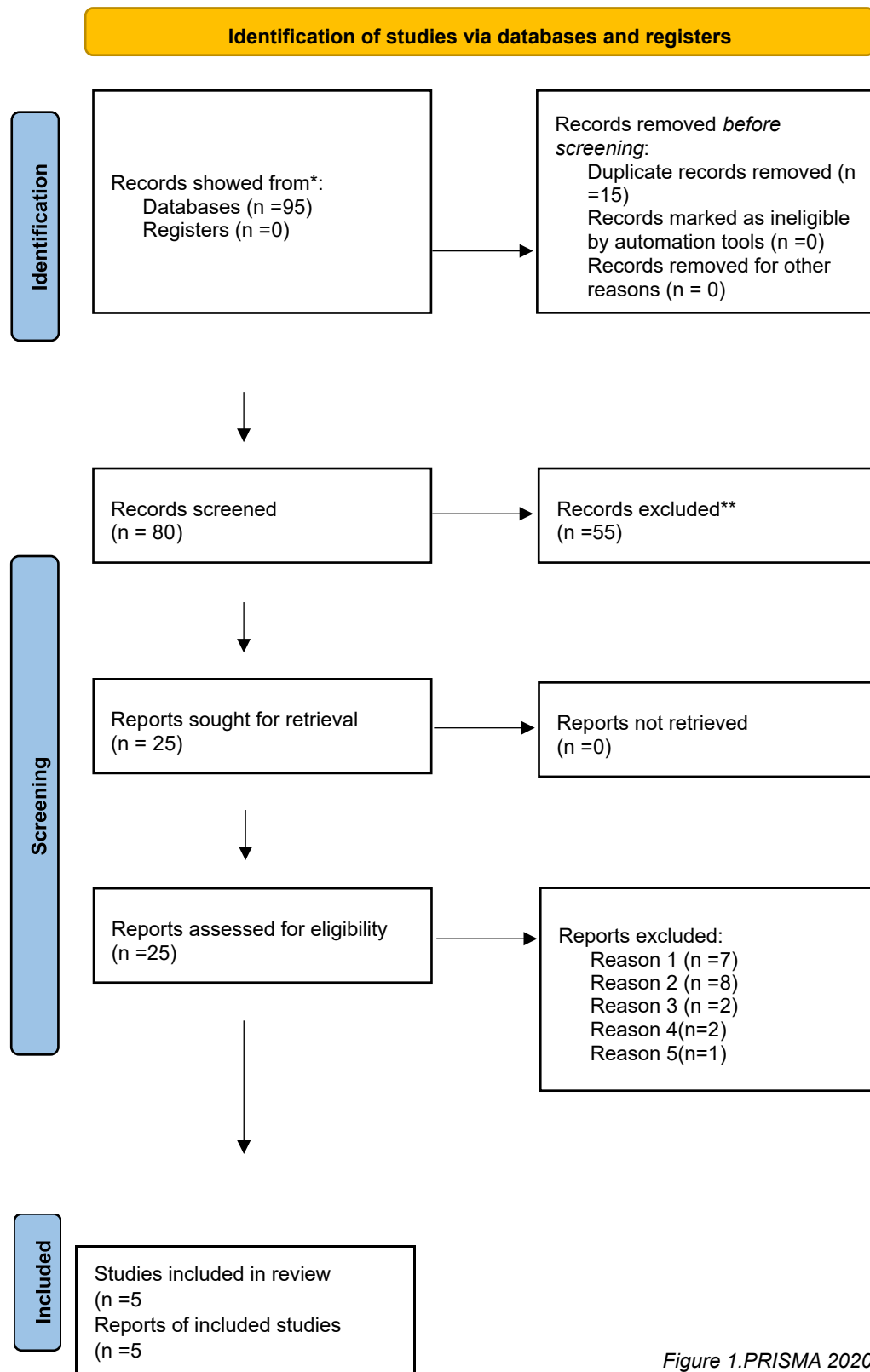


Figure 1. PRISMA 2020 flow diagram

3.4.5 Data Extraction

In accordance with the JBI guidelines, data were extracted from selected studies using a data extraction chart developed in Microsoft Excel. The chart captured information on the author,

year of publication, study location, study design, sample size, type of chronic respiratory disease, type of anxiety disorder, key findings, coping strategies, and the study methodology. (See Appendix A for data extraction chart)

3.4.6 Data Analysis

A descriptive and mapping approach was used to chart relevant information from the included studies. Key data items included author(s), year of publication, country, study design, setting, population, type of chronic respiratory disease, and coping strategies for anxiety as reported by study participants. The extracted data were synthesized through categorization of themes to identify common patterns and variations in coping strategies across studies, aligning with the objectives and methodology of this scoping review. Data was presented in a table to organize and summarize key information from the included studies, providing a clear overview of study characteristics and the thematic distribution of coping strategies identified across the evidence base.

3.4.7 Critical Appraisal

In accordance with the JBI methodology for scoping reviews, no critical appraisal or assessment of methodological quality was conducted for the included studies. The primary aim of a scoping review is to map the existing evidence, identify key concepts, and highlight research gaps rather than to evaluate the quality or risk of bias of individual studies. Therefore, all eligible studies were included irrespective of their methodological rigor or design quality.

3.5 Findings

3.5.1 Characteristics of Included Studies

Five studies were included in this review. Three studies were conducted in India, one in Nepal, and one in Pakistan, and publication years ranged from 2009 to 2024. The studies employed various methodologies; two used qualitative designs (Bhattacharyya et al., 2022; Younas et al., 2024) one employed mixed method approaches (Sharma et al., 2024) and two were quantitative studies (Singh et al., 2009; Ranjita et al., 2016). The study designs comprised two randomized controlled trials (Singh et al., 2009; Ranjita et al., 2016), one quasi-experimental pre-test/post-test study (Sharma et al., 2024) and one cross-sectional study (Younas et al., 2024). Three studies focused specifically on patients with Chronic Obstructive Pulmonary Disease (COPD), while two studies addressed CRDs more generally (Table 5). Several studies on asthma and other chronic respiratory conditions were identified but excluded, as they either focused solely on prevalence data or lacked discussion of coping strategies or their relationship to anxiety. Sample sizes in the three studies ranged from 71 to 82 participants. One study included 386 participants (including all chronic illnesses), and one was a clinical

practice guide with no reported sample size. Table 4 summarises all coping strategies with references.

Author & year	Location	Disease Focus and Anxiety	Coping Strategy
Singh et al., 2009	India	COPD with Anxiety	Music therapy and Progressive muscle relaxation
Ranjita et al., 2016	India	COPD with Anxiety	Yoga
Bhattacharyya et al., 2022	India	CRDs with anxiety disorders	CBT, group psychotherapy, or interpersonal therapy
Sharma et al., 2024	Nepal	COPD with generalized anxiety, GAD 7	Self-management
Younas et al., 2024	Pakistan	CRDs with Hospital anxiety	Avoidance

Table 4 Summarised findings from Data Extraction

3.5.2 Coping strategies for anxiety in CRDs in South Asia

Each study reported coping strategies used by individuals with CRDs who also experienced anxiety. These strategies were recorded as presented in the original studies and categorized into Themes.

3.5.2.1 Music Therapy

Singh et al. (2009) conducted a study to examine the effects of music therapy on patients hospitalized with COPD following an acute exacerbation. A total of 72 medically stable patients were randomly assigned to a music group or a progressive muscle relaxation (PMR) group. Patients in the music group listened to their preferred music (60–80 beats per minute) for 30 minutes. The study measured anxiety, dyspnoea, blood pressure, pulse rate, and respiratory rate before and after the sessions. Music therapy led to clinically significant reductions in anxiety, dyspnoea, systolic blood pressure, pulse rate, and respiratory rate.

3.5.2.2 Progressive muscle relaxation (PMR)

Singh et al. (2009) also examined the effects of progressive muscle relaxation (PMR) on hospitalized COPD patients following an acute exacerbation. Patients in the PMR group

followed a guided audio session targeting 16 muscle groups. The study measured anxiety, dyspnoea, blood pressure, pulse rate, and respiratory rate before and after the sessions. PMR resulted in reductions in anxiety, dyspnoea, pulse rate, and respiratory rate, although the magnitude of change was smaller compared with the music therapy group, which was included for comparison in the study. These findings indicate that PMR can serve as a coping strategy for anxiety and physical symptoms in hospitalized COPD patients.

3.5.2.3 Yoga

Ranjita et al. (2016) investigated the effects of yoga on physical and mental health in coal miners with chronic obstructive pulmonary disease (COPD), a population often affected by anxiety and depression. In this randomized trial, 81 miners with moderate to severe COPD were assigned to either a control group receiving standard medical care or an intervention group receiving standard care plus a 12-week yoga program. Health status, anxiety, and depression were assessed using standard questionnaires before and after the intervention. Participants in the yoga group demonstrated significant improvements in physical and mental health outcomes, while the control group showed no meaningful changes. The study concluded that yoga is a safe, effective, and feasible coping strategy to improve both mental and physical health in people with COPD, although further high-quality research is recommended to strengthen the evidence.

3.5.2.4 Psychotherapy

Bhattacharyya et al. (2022) discussed the role of psychotherapy in managing anxiety and depression among patients with CRDs, including COPD, asthma, interstitial lung disease, tuberculosis, and COVID-19. Psychotherapy is recommended as a first-line nonpharmacological treatment for mild to moderate psychiatric conditions. Various therapeutic approaches can be employed based on patient needs, including CBT, group therapy, and interpersonal therapy. CBT focuses on identifying and modifying unhelpful thoughts and behaviours to improve coping with anxiety and depressive symptoms. For moderate to severe anxiety or depression, psychotherapy may be combined with pharmacotherapy to optimise outcomes. The study emphasises the importance of integrating psychological interventions into routine care to support mental health and improve overall management of CRDs.

3.5.2.5 Self-management

Self-management skills are essential for patients with COPD, who are responsible for managing their daily care. Poor self-management is linked to worsened symptoms, functional decline, and reduced quality of life. This strategy is discussed in a study conducted in Nepal. As the study is not directly focused on anxiety in COPD, it highlights that self-management

interventions help patients respond to changing symptoms, which in turn supports better decision-making and contributes to reducing anxiety. (Sharma et al.,2024).

3.5.2.6 Avoidance coping

Younas et al. (2024) conducted a cross-sectional study in Pakistan examining psychological distress and coping strategies among individuals with various chronic illnesses, including CRDs. Data from 384 patients indicated elevated levels of anxiety and depression. While problem-focused coping was the most used strategy overall, patients with CRDs were more likely to rely on avoidance coping. The study also highlighted the influence of sociocultural factors, including type of illness, living conditions, education, illness duration, family dynamics, and support systems, on coping behaviours. These findings underscore the importance of community-based support in helping patients manage psychological distress associated with chronic illnesses.

3.6 Discussion

3.6.1 Summary of Key Findings

This scoping review mapped the existing evidence on coping strategies for anxiety in patients with CRDs in South Asia. A range of approaches were identified, including music therapy, progressive muscle relaxation (PMR), yoga, psychotherapy, avoidance coping, and selfmanagement strategies. Music therapy was found to significantly reduce anxiety, dyspnoea, and physiological distress in COPD patients, often with greater short-term benefits compared to PMR (Singh et al., 2009). Yoga interventions demonstrated improvements in both physical and psychological outcomes, particularly anxiety and depression, among patients with COPD (Ranjita et al., 2016). Psychotherapy, including CBT(CBT), was recommended as an effective strategy for managing mild to moderate anxiety and depression in patients with CRDs (Bhattacharyya et al., 2022). In contrast, a study conducted in Pakistan identified avoidance coping as a common but maladaptive response among individuals with chronic illnesses, including those with respiratory conditions, influenced by sociocultural and environmental factors (Younas et al., 2024). Finally, evidence from Nepal highlighted the importance of selfmanagement interventions, which enable patients to respond to changing symptoms, support decision-making, and contribute to reducing anxiety (Sharma et al., 2024).

3.6.2 Cultural Influences on Coping

Coping strategies are strongly shaped by cultural contexts. One study from India emphasised music as a strategy to manage anxiety in COPD patients (Singh et al., 2009), reflecting its cultural significance, while yoga, deeply rooted in Indian spiritual and cultural traditions, was also effective in improving mental and physical health outcomes (Ranjita et al., 2016). In

contrast, avoidance coping was more prominent among patients in Pakistan, influenced by stigma, limited psychosocial support, and health literacy (Younas et al., 2024). These findings suggest that culturally embedded practices can facilitate adaptive coping, whereas cultural and social barriers may contribute to maladaptive strategies.

3.6.3 Religious Influences on Coping

Although religious coping is widely reported in other chronic and acute illnesses, no studies in this review examined religious coping in chronic respiratory disease in South Asia. Evidence from an integrative review of twenty articles on COVID-19 demonstrates that faith, intrinsic religiosity, and positive religious practices are associated with lower anxiety and improved psychological outcomes (Imran, 2022). Religious coping provides patients with a sense of meaning, comfort, and community support, particularly in regions where faith plays a central role in daily life (Krok, 2024). The absence of studies on chronic respiratory disease highlights a gap in the literature and suggests a need for future research on spiritual and religious coping strategies in patients with COPD and asthma in South Asia.

3.6.4 Socioeconomic Influences on Coping

Socioeconomic factors significantly influence how patients cope with anxiety in CRDs specifically in Asthma and COPD. Limited financial resources, low education levels, and restricted access to healthcare often constrain patients' ability to engage in structured interventions such as psychotherapy, yoga, or self-management programs. Conversely, patients with higher socioeconomic status are more likely to adopt evidence-based coping strategies and access supportive services. Family support, social networks, and living conditions further influence coping behaviours, determining whether patients rely on adaptive strategies like relaxation or maladaptive approaches such as avoidance. A coping typology developed for South Asians with chronic illnesses identified problem-focused, emotion-focused, and religious coping styles, highlighting their interaction with cultural norms and the need for tailored interventions to promote adaptive coping. (Yohanes, 2024).

3.6.5 Coping Strategies for Anxiety in Asthma

Although this review focused on Asthma and COPD, evidence from outside South Asia shows that similar coping strategies are effective in asthma. A trial in Iran demonstrated that the Papworth method of relaxation significantly reduced anxiety and improved quality of life in asthma patients (Pourdowlat, 2019). This method trains patients in diaphragmatic and nasal breathing, stress control, and integrating breathing with relaxation into daily activities (Pourdowlat, 2019). In the UK, group-based CBT has also been shown to improve psychological outcomes in severe asthma (Yorke et al., 2017), with a systematic review confirming benefits for asthma control, quality of life, and anxiety. These findings suggest that

relaxation and psychotherapy may be valuable across respiratory diseases, but their effectiveness remains unexplored in South Asian asthma populations.

3.6.6 Other Coping Strategies from outside of South Asia

Evidence from outside the region shows additional interventions, including progressive muscle relaxation PMR (Kılıç, 2023), hypnosis (Anlló, 2020), CBT (Heslop-Marshall, 2018), mindfulness, breathing techniques, pulmonary rehabilitation, and NMES Neuro-muscular electrical stimulation can reduce anxiety and improve psychological and physical outcomes in COPD (Pyszora, 2022). While South Asian studies emphasize culturally embedded strategies, global evidence suggests a broader range of effective interventions could inform more comprehensive approaches.

3.7 Contributions and Recommendations for Practice in South Asia

People with CRDs in South Asia use informal coping strategies, while formal psychological interventions like CBT or structured relaxation are underutilized. Evidence from music therapy, yoga, and self-management programs shows these approaches can effectively reduce anxiety and improve quality of life and are feasible in low-resource settings. Healthcare providers should recognize anxiety in CRD patients and integrate culturally appropriate, accessible interventions into routine care to enhance patient well-being and treatment outcomes.

3.8 Conclusion

This review demonstrates that patients with CRDs in South Asia frequently experience anxiety, yet research on coping strategies is limited. Culturally embedded approaches, including music therapy, PMR, yoga, avoidance coping, and self-management, were reported, whereas religious coping and formal psychological therapies remain unexplored. Evidence from outside the region highlights additional non-pharmacological interventions, suggesting opportunities to expand coping approaches. Future research should evaluate these interventions in South Asian populations, considering cultural, spiritual, and socioeconomic factors, and healthcare providers should integrate mental health support into routine care to improve outcomes.

3.9 Limitations of the Study

This review included only English-language literature, potentially excluding relevant local language studies. Additionally, due to gaps in the evidence, a broad search covering the last 30 years was conducted, and even no limit of time, which may introduce variability in study contexts and methodologies. The next chapter explains the second part of the thesis.

Chapter 4: Methods

4.1 Introduction

While often used interchangeably, “methods” are specific techniques, whereas “methodology” refers to the overarching framework or theory guiding those methods (Peez, 2024). This chapter outlines the rationale, significance, and the complete methodological approaches employed in this dissertation. This dissertation comprises two distinct pieces of work, each with its own methods. A scoping review guided by the Joanna Briggs Institute (JBI) methodology was conducted to map existing literature, including both qualitative and quantitative studies, on the topic of coping strategies for anxiety in CRDs in South Asian countries. The second part of the dissertation, and an empirical study was conducted to explore the clinical perspectives of current coping strategies for anxiety in CRDs in Southeast Asian countries. This employed qualitative semi-structured online interviews of clinicians in Pakistan.

4.2 multi-method research design

This study adopts a multi-method approach, which is particularly valuable for combining theoretical and practical perspectives. Such an approach enables the identification of knowledge gaps, captures real-world insights, and provides a more comprehensive understanding of the research problem (Marchisotti, 2022). By integrating multiple methods, the study enhances the depth and breadth of analysis, ensuring that both theory-driven and experiential perspectives are considered in exploring coping strategies for anxiety in CRDs in South Asia.

4.3 Rationale for qualitative Study and clinicians' interviews:

Qualitative research has gained increasing recognition in health services research. Semistructured interviews are particularly valuable because they allow the researcher to focus on key topics while retaining the flexibility to explore emerging insights, enhancing understanding of the service being studied (Adeoye-Olatunde & Olenik, 2021).

The reason for conducting clinician interviews was to explore real clinical practices and experiences, as clinicians have first-hand exposure to the variety of coping strategies used by their patients. In this study and after discussion with the supervisors, it was considered more relevant to interview clinicians, allowing the study to gather broad insights from their perspectives of treating multiple patients.

4.4 Qualitative Study Methodology

Given the exploratory nature of this study, a qualitative research design was employed, using online one-to-one short interviews as the primary data collection method. This approach provided the flexibility needed to capture rich, detailed insights into coping strategies for anxiety in individuals with CRDs, drawing on the experiences and perspectives of clinicians in Pakistan.

A combination of deductive and inductive approaches guided the study (Dunwoodie et al., 2023). Interview questions were informed by the results of the scoping review and Folkman and Lazarus's theory of stress and coping, providing a deductive framework, while the analysis remained open to emerging themes identified within the data, reflecting an inductive approach. This dual approach enabled a balance between theory-driven inquiry and responsiveness to participants lived experiences.

4.4.1 Objective

The main objective of the qualitative study is to explore the perspectives and experiences of clinicians regarding patients of CRDs with anxiety through interviews in Pakistan

4.4.2 Target Population and Sampling

The target population for this research included clinicians who have worked for more than two years with patients living with CRDs and anxiety in Pakistan. A purposive snowball sampling strategy was adopted, focusing on healthcare professionals from various backgrounds, including pulmonologists, psychologists, and general practitioners following this diversity in clinicians will provide a comprehensive perspective on the coping strategies they observe and recommend to their patients (Palinkas et al., 2015).

The sample size was determined by medical network based on the willingness of clinicians for being interviewed because recruitment was challenging. Due to time constraints and availability an initial sample size of 15 clinicians was anticipated which is enough for saturation point in qualitative study (Mwita, 2022).

4.4.3 Interview Preparation

Preparatory work included a thorough literature and scoping reviews on CRDs, anxiety, and coping strategies, as well as understanding the cultural context of Pakistan. The researcher developed an interview guide that outlines key aspects and questions designed to guide the researcher during the interview and prompt open discussions. Interview questions cover topics such as observed coping strategies, recommendations for patient support, and cultural factors influencing anxiety according to Lazarus and Folkman's Theory. Before full-scale data collection, a pilot test of the interview questions was conducted with two clinicians to assess clarity and relevance.

4.4.4 Conducting the Interviews

Interviews were conducted online via Microsoft teams. The interviews were ~~as~~ recorded and transcribed after informed consent. Strategies were employed to ensure participants feel comfortable sharing experiences, particularly concerning the mental health aspects of living with anxiety and CRDs.

The researcher ensured that active listening skills were deployed—emphasising a nonjudgmental and empathetic approach by using open-ended questions and providing empathetic responses during interviews. Confidentiality was maintained and the researcher reassured the participants could stop the interview at any time. Additionally, it was reinforced that the data were kept anonymised.

4.4.5 Data Analysis

Data collected from interviews were analysed thematically. (Braun and Clarke, 2006). Thematic analysis enabled the identification of key themes and patterns in clinicians' descriptions of coping strategies for anxiety in patients with CRDs. The analysis process involved familiarising with data, coding the data, identifying recurring themes, reviewing the themes and interpreting the findings within the context of the existing literature. Thematic analysis is a widely used qualitative analysis method that systematically identifies, analyses, and report themes within qualitative data. Utilizing this method within the framework of Lazarus and Folkman's Stress and Coping Theory and provides a robust theoretical backbone for understanding participants' responses. Lazarus and Folkman's Theory emphasize the dynamic interaction between stressors, personal evaluations (appraisals), and coping mechanisms. Stress is seen as a condition that involves challenges and threats posed by external pressures, which individuals can respond to using various coping strategies Lazarus and Folkman (1984). This framework can be used to interpret how clinicians perceive their patients' coping processes over time. In analysing interview data, themes might emerge around how clinicians identify external stressors affecting their patients (e.g., health-related fears) and the coping strategies they observe (e.g., problem-focused coping, emotion-focused coping).

4.4.6 Writing the Report

Findings were presented thematically while tying back to the theoretical frameworks to provide depth and context to the interpretation of the data

4.5 Researcher Reflexivity

Reflexivity was maintained throughout the research process, following guidance from OlmosVega et al. (2023). The researcher engaged in ongoing critical reflection at each stage

of the study to recognise and manage personal assumptions and potential biases. The theoretical framework was selected in consultation with supervisors and academic review panels to ensure alignment with the study objectives.

During the interviews, the researcher summarised participants' responses at the end of each session and invited their feedback to verify accurate interpretation of their views. Additionally, each stage of the research process was regularly discussed with supervisors to minimise potential bias and ensure methodological rigour.

4.6 Ethical Considerations

The study was conducted in accordance with Bournemouth University's ethical guidelines. An ethical checklist was first submitted for approval, which included the participant information sheet, participant consent form, interview guide, and invitation email for clinicians. This process ensured that participants were fully informed about the purpose of the research, their rights, and the voluntary nature of participation.

Ethical approval was subsequently granted by Bournemouth University (Ethical ID: 63503), and interviews commenced only after this approval had been obtained. A copy of the approved ethical checklist is provided in the Appendix C.

As the interviews were carried out with clinicians within the researcher's professional network in Pakistan, separate ethical approval from Pakistan was not required. Nonetheless, ethical standards were maintained through careful consideration of reflexivity and positionality. Clinicians were purposively selected from the researcher's professional circle, and invitations were sent via email. A minimum of 24 hours was provided for clinicians to review the information before responding. Interviews were conducted only after informed consent was received.

All data collected were treated with strict confidentiality. Data were stored securely on OneDrive in a password-protected file, on a Bournemouth University server, accessible only to the principal researcher. Prior to data analysis, all data were anonymised to protect participants' identities, ensuring privacy and compliance with ethical research standards. The next chapter presents the findings of these interviews.

Chapter 5: Clinicians' Interviews Findings

5.1 Introduction

Anxiety significantly affects patients with CRDs, yet research and clinical care have primarily focused on lung function, often overlooking psychological well-being (Usmani et al., 2018). Management of anxiety in CRDs requires an integrated approach combining pharmacological and non-pharmacological strategies. Pharmacological options, such as benzodiazepines (e.g., lorazepam) or selective serotonin reuptake inhibitors (SSRIs), may reduce acute anxiety, while pulmonary rehabilitation, breathing retraining, and cognitive-behavioural therapy (CBT) provide effective non-pharmacological support (Bhattacharyya, 2022). Although these interventions can alleviate symptoms, their long-term effectiveness remains uncertain (Hanania, 2019; Tselebis et al., 2016).

Mental health, however, continues to be shaped by cultural and social factors. In many Southeast and South Asian countries, stigma, collectivist values, and cultural beliefs often discourage timely help-seeking, leading individuals to rely on family support, faith healing, or traditional medicine instead of professional care, combined with limited resources, shortages of trained professionals, and low investment in mental health services, these factors underscore the need for culturally sensitive and context-specific approaches to psychological care in the region (Virdiyanti, 2025; Badran et al., 2025; Kabir et al., 2024). Clinicians are often the first point of contact for COPD patients and play a crucial role in screening for and early detection of anxiety (Yohannes et al., 2018); however, little research has captured their perspectives on anxiety management in CRDs, particularly in South Asia. Pakistan was chosen due to the high prevalence of CRDs and associated anxiety, with studies reporting depression and anxiety rates as high as 80–100% among patients (Mustafa et al., 2025).

While the scoping review, the first part of this research, mapped existing literature on coping strategies for anxiety in CRDs in South Asia, this chapter presents the methodology and findings of the primary research. A qualitative design was employed, using semi-structured interviews with clinicians in Pakistan conducted online, to explore their experiences and perspectives regarding coping strategies for anxiety in CRD patients. The interviews aimed to (1) understand clinicians' insights into how anxiety manifests and is managed in CRD patients, and (2) identify the coping strategies patients use, considering cultural, social, and healthcare-related influences. By capturing clinicians' firsthand experiences, this study provides practical, context-specific insights into anxiety management in CRDs and highlights strategies that can inform culturally sensitive interventions and future research priorities.

5.2 Findings

5.2.1 Recruited Clinicians

The study included 15 clinicians with diverse professional backgrounds and experience levels; all actively engaged in managing patients with CRDs and anxiety in Pakistan. Among them, four clinicians had more than seven years of experience, three had more than five years, and five had between three to five years of experience in medicine as well as in pulmonology departments. The remaining three participants had two to three years of relevant experience, meeting the study's inclusion criteria.

Clinicians were drawn from different hospitals across major cities in Punjab, representing both primary care and tertiary care settings. These facilities serve patients from all over Pakistan, providing clinicians with exposure to a wide range of cases and sociocultural backgrounds. The sample included pulmonologists and general practitioners and psychologists, reflecting the multidisciplinary nature of CRD care. This diversity in professional roles, clinical experience, and healthcare settings allowed the study to capture a broad and nuanced understanding of coping strategies for anxiety in CRD patients, highlighting both common practices and context-specific challenges in clinical management. Table 5 presents years of experiences with number of clinicians

Number of Clinicians	Years of Experience
Four Clinicians	More than 7 years
Three Clinicians	More than 5 years
Five Clinicians	Three to five years
Three Clinicians	Two to three years

Table 5. Years of experiences of clinicians with number of clinicians

5.2.2 Thematic Analysis

During the analysis, seven overarching themes were identified: *clinical features and triggers of anxiety, problem-focused coping, emotion-focused coping, maladaptive coping, education and awareness, cultural influences in coping, and barriers to effective coping*. To provide an overview of these findings, the themes and their respective subthemes are summarised in Table 6. The table offers a concise structure of the results and demonstrates the breadth of perspectives shared by participants. Each theme is then explored in detail, with subthemes illustrated by anonymised participant quotations (e.g., C01, C02) to clarify their individual meanings and highlight their interrelation with the overarching theme.

The categorisation of coping-related themes into *problem-focused* and *emotion-focused* was guided by Lazarus and Folkman's transactional model of stress and coping (1984), a widely

applied framework in health psychology. This model distinguishes between strategies aimed at managing or altering the stressor (problem-focused coping) and those directed towards regulating the emotional stress response (emotion-focused coping). In addition to these categories, the analysis also identified a theme of maladaptive coping, reflecting strategies that clinicians perceived as ineffective or potentially detrimental. While maladaptive coping does not feature explicitly in Lazarus and Folkman's original framework, its emergence in the current data provides additional insight into the coping processes of patients with CRDs.

Theme	Sub-theme
Clinical Features and Triggers of Anxiety in CRDs	High prevalence of anxiety in CRDs Symptomology of anxiety in CRDs Acute exacerbations trigger anxiety Perceptions of Illness Management related anxiety
Problem-focused coping	Psychotherapy and Psychological Support Relaxation Techniques and Lifestyle Modifications Multidisciplinary Team Approach Proper counselling and knowledge of disease
Emotion-focused coping	Family and Social Support self efficacy Spiritual and religious coping
Maladaptive Coping	Avoidance Excessive use of inhaler or revlizer in anxiety Misunderstanding of Chronic Disease Nature Use of home remedies; Seeking nearby doctor support
Education and awareness	Knowledge as a Tool for Disease Control Awareness of magnitude of anxiety-related problems Communicating at the patient's level Detailed Patient Education Literacy and Understanding Training for respiratory care providers Proper inhaler use education
Cultural Influences on Coping	Misattribution of illness Cultural taboos and stigma Financial burden of treatment Inhaler technique related anxiety
Barriers to Effective Coping	Limited integration of mental health into CRD care Cultural belief limiting holistic care Dependence on others / loss of autonomy lack of awareness of disease lack of family support Structural and Systemic Barriers

Table 6 .Summary of Themes and Sub-themes

5.2.2.1 Clinical Features and Triggers of Anxiety

High Prevalence of Anxiety in CRDs

Clinicians consistently reported that anxiety is highly prevalent among patients with CRDs, particularly asthma and COPD. One clinician noted

“This is one of the major factors that cannot be avoided or ignored when it comes to patients with respiratory conditions.” (C05)

Several clinicians provided estimates of prevalence, with nine (C03, C04, C06, C07, C09, C12, C13, C15, C02) suggesting that 60–70% of CRD patients experience anxiety, while one estimated rate as high as 90%. Another clinician emphasised the co-occurrence of psychological conditions, stating

“More than half of the patients with chronic respiratory disease, they have depression, anxiety and this kind of diseases.” (C11)

These insights highlight clinicians shared perception that anxiety is a widespread and significant comorbidity in CRDs, warranting greater attention in both research and practice.

Symptomology of Anxiety in CRDs:

Clinicians described a wide range of physical, cognitive, and emotional symptoms of anxiety in patients with CRDs. The most frequently mentioned was shortness of breath, reported by several clinicians (C09, C10, C13) as the predominant presentation.

Cardiovascular symptoms such as palpitations, tachycardia, and excessive sweating were also common, particularly in middle-aged patients. One clinician explained

“They feel racing of heart, and they show restlessness and increased breathing and difficulty in breathing and fear symptoms like all of these, fear of death, fear of choking.” (C01)

Other physical manifestations included restlessness, insomnia, tremors, chest tightness, dry mouth, perioral numbness, and gut-related problems, with older patients more likely to present with lethargy and sleep disturbances (C04, C06, C15).

On a cognitive and emotional level, clinicians highlighted poor concentration, irritability, fear of death, and a sense of impending doom

“Feeling on the edge most of the times and they may have sleep problems, feel tired.” (C08)
“They will feel their surrounding is very gloomy, dark and they feel the shortness of breath.” (C09)

Less commonly, more severe psychiatric features such as hallucinations and bipolar-like symptoms were reported, usually in patients with pre-existing mental health conditions (C03). One clinician further noted that asthma patients rarely develop anxiety, but in older adults with COPD, anxiety often intensifies (C03).

Overall, these findings show that anxiety in CRDs manifests as a complex interplay of physical, cognitive, and emotional symptoms, often amplified by dyspnoea and disease burden.

Acute Exacerbations Trigger Anxiety

Clinicians consistently reported that acute exacerbations of CRDs are a major trigger of anxiety, often more distressing than the slow progression of the disease. Several clinicians (C01, C12, C14) described flare-ups as provoking intense fear, with patients sometimes perceiving attacks as life-threatening

“They're not much threatened by the chronic progression of the disease. But whenever it comes to the acute attack, some of them get very anxious and they are very threatened by the attack.” (C12)

Another clinician highlighted that the level of threat is that they feel it is the end of life

“Active flare up of the disease, acute attack, then they think like it's the end of their world, like it's the end of their life.” (C01)

Clinicians also noted that anxiety intensity varies by context, with patients in acute care showing higher levels than those in stable settings

“Level of anxiety is much less than the one who present in acute settings.” (C15)

Improving patients' knowledge about their condition and reducing the frequency of Exacerbations were highlighted as strategies to mitigate anxiety

“If people better know about their condition and if their acute exposures, acute exacerbations, are reduced, they can reduce anxiety as well.” (C14)

Overall, acute flare-ups act as powerful psychological stressors, with patients often experiencing heightened anxiety due to the immediate threat posed by attacks, whereas chronic disease progression alone is less anxiety-inducing.

Perception of Illness

Clinicians reported that patients' perceptions of their CRD strongly influence anxiety levels. Several clinicians (C02, C05, C07, C11, C13, C15) noted that anxiety is more pronounced in severe cases or when patients interpret symptoms as threatening

"Most of the patients see these symptoms or look forward to these symptoms as a threat." (C02)

"They think that they are just having the last bits of their life, so they do panic." (C05)

By contrast, a smaller number of clinicians (C03, C08, C14) observed that some patients perceive symptoms as manageable or do not consider them threatening

"Some of them don't think it as a threat." (C08)

Overall, these findings indicate that patients' individual interpretations of their illness—from perceiving imminent threat to recognizing manageability play a critical role in shaping anxiety, with the majority tending to view their condition as threatening.

Management-related anxiety

Clinicians highlighted that anxiety in CRD patients is closely linked to disease management, particularly when treatment is complex, invasive, or perceived as insufficient. Several clinicians (C03, C04, C13) noted that patients requiring advanced interventions, such as noninvasive ventilation or continuous oxygen, often experience heightened anxiety:

"Many patients who are having chronic hypoxia... develop CO2 narcosis and they need the non-invasive ventilations." (C03) *"Keep on oxygen in relation and that's why they observe anxiety in those patients."* (C13)

The progression to critical stages of disease and limited treatment options further exacerbates anxiety (C11, C12)

"When the patient reaches the critical point, the end of the disease and there is only palliative care... then it's troublesome for the patient and for the doctor also." (C11) *"Patients with CRDs are in a continuous struggle like they have been struggling for so long."* (C12)

Clinicians also emphasised that the lifelong nature of disease management can amplify anxiety

“Having a chronic disease and having to be managed and to have to be managing it throughout their life... That's one anxiety and the way that they must manage it. That's another cherry on top.” (C04)

Finally, anxiety may be more pronounced when standard treatments fail, particularly in patients with COPD compared to asthma

“They are not getting much better by using the inhalers or nebulizers, so they develop anxiety more as compared to asthma.” (C03)

Overall, these findings suggest that management-related anxiety arises from both the physical burden of treatment and the psychological stress of ongoing disease management, treatment limitations, and progression toward critical illness, highlighting the need for tailored management plans, patient education, and supportive care.

5.2.2.2 Problem-focused coping

Psychotherapy and Psychological Support

Clinicians emphasised CBT as a key intervention for managing anxiety in chronic respiratory disease (CRD) patients. They highlighted the importance of CBT and counselling as structured psychological interventions for anxiety management in CRD patients

“CBT and any kind of therapy sessions for their better outcomes as compared to those who just take it as a taboo.” (C09)

Beyond formal therapy, psychological and social support were also considered vital. Clinicians emphasised the role of family members, doctors, and the broader support network in enhancing coping

“If they have any mental support as well as proper psychological support, then they can cope better. They do better when they're using healthy coping strategies (C12)”.

“It’s compulsory for the doctor and for the family of the patient to provide psychological supports.” (C11)

Together, these findings suggest that structured psychotherapy combined with adequate psychological and social support plays a crucial role in alleviating anxiety in CRD patients.

Relaxation Techniques and Lifestyle Modifications

Alongside formal therapy, clinicians recommended self-regulated practices and lifestyle changes to improve coping with anxiety. These included relaxation techniques such as meditation, yoga, and breathing exercises, as well as cognitive strategies like positive self-talk and thought reframing (C06, C09, C13, C15)

“Breathing exercises like deep breathing, yoga, otherwise they would be relaxation techniques like meditation.” (C15)

“Do some meditation exercises like yoga, fresh walk, spend some good time with their friends and the families so they can not feel alone.” (C09)

These insights suggest that incorporating lifestyle-based and relaxation practices can complement clinical interventions, helping patients to manage anxiety more effectively in their daily lives.

Multidisciplinary Team Approach

Clinicians emphasised that collaboration between respiratory medicine and mental health professionals is essential for managing anxiety in CRD patients. Several clinicians (C03, C04, C06, C08, C09, C11, C13, C15) highlighted the importance of integrating psychiatrists, psychologists, and other mental health specialists into the patient care team

“Respiratory medicine physicians and the psychiatric physicians should work together for the betterment of the patient.” (C03)

“There should be a psychiatrist or a psychologist in every medical specialty, and it should be available everywhere in every tertiary care hospital.” (C11)

In practice, clinicians frequently referred patients to psychiatry or coordinated care with mental health professionals

“Referred them to the psychiatry department for the complete evaluation regarding their anxiety and depression management.” (C09)

Overall, clinicians agreed that a multidisciplinary approach, integrating medical and mental health expertise, is crucial for comprehensive management of anxiety in CRD patients.

Proper counselling and knowledge of disease

Clinicians highlighted that providing patients with proper counselling and clear knowledge of their disease plays a critical role in reducing anxiety in CRD patients. Several clinicians (C03, C04, C07, C09, C10) emphasised that understanding the condition, its management, and the cause of anxiety empowers patients and improves coping

“But if given proper knowledge and the counselling and patient knows about his disease, then these patients are pretty OK with that.” (C07)

“Fully understood the condition... understood the consequences of not treating their obstructive disease. The best goal for the anxiety aspect of disease.” (C04)

Clinicians described counselling as an interactive process, often involving negotiation and ongoing discussions to ensure patients comprehend their condition

“These are the social norms which we must face in the daily activities of our OPD. But yeah, after some time of the counselling and negotiating techniques, we can counsel.” (C09)

Overall, clinicians agreed that structured counselling and patient education are essential for enhancing understanding, reducing anxiety, and improving adherence to treatment in CRD patients.

5.2.2.3 Emotion-focused coping

Family and Social Support

Clinicians highlighted that family and social support play a central role in emotion-focused coping for patients with CRDs. Several clinicians (C02, C06, C09, C10, C12, C13, C14, C15) emphasised that patients rely heavily on close family members and friends for reassurance, guidance, and emotional stability

“They want someone to talk to them and reassure them about their conditions.” (C10) “Such patients are mostly dependent on their family members, so we counsel them to be supportive to the patient.” (C13)

Clinicians noted that family involvement reduces fears, isolation, and feelings of helplessness, while fostering a sense of belonging and boosting morale

“It reduces fears and isolation by providing empathy, care and reassurance... sense of belonging.” (C06)

In contexts where formal support groups were limited, clinicians stressed the importance of strengthening family involvement and leveraging social networks

“We don't have active support groups here. So, we must rely on the family and the family education.” (C06)

Overall, these findings indicate that family and social support are essential for mitigating anxiety, enhancing coping capacity, and promoting emotional well-being in CRD patients.

Self-efficacy

Clinicians emphasised that enhancing patients' self-efficacy is crucial for coping with anxiety in CRD patients. Several clinicians (C01, C02, C04, C06, C08, C09, C15) highlighted that acceptance of the disease, confidence-building, and structured coping strategies help patients manage their symptoms effectively

“Basic help that they get from their social and cultural help is acceptance and assurance. Once they accept their condition, they are in a better condition.” (C15)

Clinicians also stressed building confidence through achievable goals and guided practice

“But I always focus on building the patient's confidence by setting small, achievable goals and assuring them.” (C06)

Conversely, lack of self-efficacy was noted as a barrier to coping: *“They've lost hope that they can deal with this condition.” (C04)* Overall, these findings suggest that acceptance, confidence-building, and structured coping interventions are central to fostering self-efficacy, enabling patients to manage anxiety and improve their quality of life.

Spiritual and religious coping

Clinicians highlighted that spirituality and religious practices serve as important coping strategies for anxiety in CRD patients. Several clinicians (C02, C05, C06, C07, C12, C15) noted that faith and religious rituals provide emotional reassurance, hope, and a sense of strength

“They just like the predominant religion here is Islam. So, most of the patients just go into worshipping and prayers... and that faith part gives them a bit of hope or something like a strength.” (C07)

Clinicians observed that religious and cultural practices help patients manage anxiety by offering comfort, promoting emotional stability, and reinforcing coping through faith

“This is anxiety... do cultural practices like prayers.” (C02)

Overall, these findings suggest that spiritual and religious coping is a valuable emotion-focused strategy, particularly in culturally and religiously oriented populations, providing hope, reassurance, and psychological resilience.

5.2.2.4 Maladaptive Coping

Avoidance

Clinicians reported that some CRD patients use avoidance as an emotion-focused coping strategy, deliberately avoiding situations, activities, or triggers that provoke anxiety. This approach helps patients reduce immediate distress and maintain a sense of control over their condition.

“Try to avoid any trigger event that have caused it.” (C01)

While avoidance can provide short-term relief, clinicians noted that relying solely on this strategy may limit patients' engagement in daily activities and potentially affect long-term coping and disease management.

Excessive use of inhaler or revilizer in anxiety

Clinicians reported that some CRD patients engage in excessive use of inhalers and home nebulization as a coping strategy for anxiety, reflecting heightened concern about symptom exacerbation and attempts to maintain control

“Inhalers in their hand as well as some nebulization which they have already done at home.” (C05)

While this behaviour may provide temporary relief, clinicians noted that it represents a maladaptive coping mechanism, as it does not address underlying anxiety and may lead to over-reliance on medications or improper self-management.

Misunderstanding of Chronic Disease Nature

Clinicians reported that some CRD patients misinterpret the chronic and recurring nature of their disease, which can lead to unrealistic expectations and maladaptive coping behaviours. Several patients expect short-term treatment to provide a permanent cure, particularly those experiencing seasonal exacerbations

“We want to take a medication for like a week and we want to be done with it. These are the patients that have the seasonal exacerbations.” (C04)

“Create this... delusion. I would say that this is a treatable or curable condition... This creates a little dilemma.” (C04)

Clinicians emphasised that this misunderstanding contributes to poor adherence, frustration, and increased anxiety, highlighting the need for patient education about the chronic and fluctuating nature of CRDs.

Overall, lack of awareness about disease chronicity represents a cognitive form of maladaptive coping, reinforcing the importance of counselling and structured disease education.

Use of home remedies; Seeking nearby doctor support

Clinicians reported that some CRD patients rely on home remedies or local doctors for immediate relief or reassurance

“Using the home remedies like they will go into the fresh air. They will go to their nearby doctor.” (C09)

While providing short-term comfort, this approach can delay adherence to prescribed treatment and does not address underlying anxiety, representing a maladaptive coping strategy.

5.2.2.5 Education and awareness

Knowledge as a Tool for Disease Control

Clinicians emphasised that patients' understanding of their CRD plays a crucial role in managing anxiety and improving disease control. Several clinicians (C05, C07, C08, C11, C12, C15) highlighted that knowledge empowers patients to adhere to treatment, perceive their symptoms as manageable, and reduce the frequency of exacerbations

“In my opinion... it’s a kind of defence mechanism as well... Intellectualization where the person knows very much about his disease.” (C07)

“When the patient understands his disease, he can better manage his disease.” (C11) “Yes, I believe that patients who have a better understanding of the disease have less anxiety.” (C12)

“If a patient comes with the approach that he knows what exactly is going wrong... there are quite less chances of exacerbation.” (C05)

Overall, clinicians agreed that knowledge acts as both a coping mechanism and a tool for disease management, enhancing adherence, self-efficacy, and anxiety reduction in CRD patients.

Awareness of magnitude of anxiety-related problems

Clinicians highlighted that both patients and healthcare professionals need to recognize the scope of anxiety-related issues in CRD. Several clinicians (C01, C02, C03, C04, C15) noted that awareness helps patients identify triggers, manage symptoms, and reduce anxiety

“They can realise their triggers and can avoid.” (C01)

“It’s very important... not only making patients understand but also making professionals understand the magnitude of anxiety-related problems in CRDs.” (C15)

“Well aware of their disease, those are the ones that had the minimum anxiety aspect of the disease.” (C04)

“They knew it very well and if they are counselled very well, they most often develop less anxiety.” (C03)

Overall, clinicians agreed that awareness of anxiety-related issues functions as a preventive and coping strategy, enabling patients to manage triggers effectively and reducing the psychological burden of CRDs.

Communicating at the patient’s level

Clinicians emphasised that effective communication tailored to the patient’s understanding is essential for reducing anxiety and improving adherence in CRD management.

“Talk to them at their level.” (C05)

By adjusting explanations to the patient's knowledge and capacity, clinicians can foster better understanding, engagement, and coping, supporting both disease management and psychological well-being.

Detailed Patient Education

Clinicians highlighted that comprehensive patient education is crucial for improving coping, adherence, and disease management in CRD patients. Several clinicians (C04, C05, C06, C08, C09, C10, C11, C12, C13) emphasised explaining the disease, treatment options, and self-management strategies in detail and in terms patients can understand

"If somehow we can explain it more deeply to them, the pros and cons of these techniques, these medications, as well as more acceptance of the disease... maybe it will help better in the prognosis of this treatment." (C08)

"The education and personal knowledge about the disease... is very valuable in their management and coping strategies." (C09)

I think the best way is to teach them about their condition." (C10)

Clinicians suggested that tailored, in-depth education fosters acceptance, reduces anxiety, and enhances patients' self-efficacy and coping strategies, forming a cornerstone of effective CRD management.

Literacy and Understanding

Clinicians noted that patients' literacy and comprehension significantly influence their ability to understand and manage CRDs, affecting adherence, coping, and anxiety levels

"Depends on the literacy of the patient and how much they are understanding their disease." (C08)

"The literacy rate has quite a great impact." (C02)

Higher literacy and better understanding enable patients to follow treatment plans effectively, engage with coping strategies, and recognize the importance of ongoing disease management, while lower literacy may limit these outcomes.

Training for respiratory care providers

Participants highlighted the importance of training respiratory care providers to better support patients with CRDs experiencing anxiety. This training was seen as extending beyond clinical expertise to include empathetic communication, as one participant noted,

“Doctors and the nurses need to be a bit empathetic towards the patients” (C05).

The need for structured and systematic training was emphasised, with a participant simply stating,

“Training for respiratory care providers” (C06).

Training content was suggested to include psychosocial approaches such as CBT(CBT), yoga, and referral pathways for psychological support

“Education regarding the CBT, yoga and in some cases where there are extreme cases of anxiety or depressions, we also refer the patient to the psychiatrist or psychologist for that” (C13).

Additionally, mass awareness initiatives were recommended to sensitise and educate clinicians

“Mass awareness through seminars in masses importantly to sensitise to educate the clinicians” (C15).

Overall, participants viewed provider training as essential to enhancing both clinical and psychosocial care for patients.

Proper inhalers use education

Participants emphasised the need to educate patients on the correct use of inhalers as a key strategy to prevent disease exacerbations. One clinician explained

“We teach them how to use inhalers properly, to avoid any exacerbations” (C13).

In addition to technique, participants highlighted the importance of addressing cultural stigma, with one noting

“The only solution of the disease is to use the inhaler and not a taboo of our society” (C09).

This suggests that inhaler education should integrate both practical training and efforts to reduce social misconceptions surrounding their use.

5.2.2.6 Cultural Influences on Coping

Misattribution of illness

Clinicians reported that patients often confuse anxiety symptoms with respiratory problems. One explained

“Saturation levels were normal and most of the times they're all the labs are normal, but they relate their symptoms with their stress” (C01),

while another noted,

“No wheeze is found and there is nothing that justifies the shortness of the breath of the patient, this is most likely due to the anxiety” (C05).

Patients may also experience panic episodes, as described

“Your chest is clear and your saturation is OK and they just breathe heavily in with anxiety. You can say in panic attacks” (C10).

The overlap of symptoms further complicates perception

“Which are not because of the respiratory disease, but because of their underlying anxiety or depression, which they are confusing with the respiratory diseases like they have the asthma” (C09)

“The symptomatology of CRDs and the symptomatology of anxiety, it's the same. Right. They would present with the same symptoms as anxiety” (C15).

Cultural taboos and stigma

Cultural taboos and social stigma emerged as significant barriers in the recognition and management of anxiety among patients with CRDs in South Asia. Participants highlighted that mental health issues, such as anxiety and depression, are often considered socially unacceptable or taboo. One participant noted

“Pakistani people... considered depression or anxiety as a taboo. So, I've seen many people remain undiagnosed, untreated, which will lead to consequences” (C09).

Another reflected on the challenges for healthcare providers

“The major issue is the culture, so we must do the culture sensitive counselling... They take it like a social taboo” (C06).

Stigma often leads to mislabelling patients as malingering, further delaying appropriate care: “Sometimes people do label them that they are malingering” (C01)

Patients frequently seek advice from traditional healers, quacks, or religious figures before accessing medical care, guided by cultural myths about supernatural causes of illness

“Many patients... believe that attacks of shortness of breath or other respiratory symptoms may be due to some kind of magic... this delays their presentation to the doctor” (C13).

Social stigma also affects treatment adherence. Patients may be reluctant to use inhalers due to fear of social judgment

“The main anxiety of the patient is to use the inhaler; patients are very reluctant due to social stigma” (C03).

Misconceptions about the disease, such as believing asthma is “nothing,” further prevent timely treatment

“Myths about the disease, that asthma is nothing” (C04).

Healthcare providers emphasised the importance of culturally sensitive counselling to address these barriers and acknowledged the critical role of family support in managing anxiety

“Cultural beliefs... manage their anxiety, Social support from the family” (C02) and “Cultural beliefs play a lot of important roles” (C14).

Overall, cultural taboos, myths, and social stigma significantly delay diagnosis, hinder treatment adherence, and complicate the management of anxiety in patients with CRDs in South Asia. Addressing these barriers requires interventions that are culturally informed, respectful, and context specific.

Financial burden of treatment

Financial constraints were identified as a significant source of anxiety for patients with CRDs crucial factor in LMICs. One participant explained

“They are also anxious because of that financial pressure on them for their treatments” (C13).

The cost of long-term treatment, medications, and hospital visits can exacerbate the psychological burden of the disease, making patients feel stressed and overwhelmed. Financial strain not only impacts adherence to prescribed therapies but may also delay timely access to medical care, contributing to worsening health outcomes. Addressing the economic challenges alongside medical and psychological support is essential for comprehensive patient care.

Inhaler technique-related anxiety

Anxiety among patients with CRDs is not limited to the illness itself but also extends to disease management. Many patients struggle with using inhalers correctly, particularly older, or “traditional” devices, which contributes to stress and uncertainty about their treatment. One participant explained

“It's not just the illness that they're worried about, it's also the management... have hardly understood how to use the old-fashioned inhalers” (C04).

In addition, using inhalers is influenced by social stigma and cultural perceptions. In some communities, inhaler use is seen as taboo, discouraging patients from proper usage or even initiating therapy. As highlighted by a participant,

“Using the inhaler here is considered to be as the taboo of our society” (C03).

This combination of practical difficulties and societal pressures exacerbates patient anxiety, potentially affecting adherence to treatment and overall disease management.

5.2.2.7 Barriers to Effective Coping

Limited integration of mental health into CRD care

Participants highlighted a lack of structured integration of mental health services within CRD care. The importance of linking pulmonology with mental health professionals was emphasised

“Connection between the mental health and pulmonology department is quite important. Contact the mental health specialist, psychologist, and psychiatrist” (C02).

Suggestions included establishing a

“Proper on-call mental health team” (C05) and ensuring “integration of mental health professionals” (C06).

However, practical challenges were noted. Referral uptake was often low, as one participant observed

“Only 10% will follow with the psychiatrist, rest of them will... maybe using the medication” (C08).

Others suggested bringing mental health services directly to patients

“We cannot get the patient to surely go to the psychiatrist, but here we can make the mental health team come to the patient as well” (C04).

System-level limitations were also identified, particularly the lack of specialised institutions and accessible services

“There are not that many institutes that... treat the anxiety and depression associated with chronic diseases” (C11)

.

Expanding availability and awareness was seen as essential, with a call for

“Mental health awareness and these centres should be everywhere and... accessible for the patients” (C11).

These findings illustrate that while the role of mental health support in CRD care is widely acknowledged, its integration is hindered by service shortages, limited accessibility, and low patient engagement.

Cultural belief limiting holistic care

Cultural perceptions were identified as barriers to integrating psychological support into CRD care. One participant observed

“In my country... people do not believe in counselling, and they think that the only remedy for their condition is medication” (C10).

Such beliefs restrict acceptance of counselling and other supportive approaches, thereby limiting opportunities for holistic management of anxiety in patients with CRDs.

Dependence on others / loss of autonomy

Participants noted that patients with CRDs often experience a loss of independence, leading to reliance on others for daily needs and clinical visits. As one participant explained

“And they feel dependent on others” (C06).

Another added

“No independence in these patients. They are accompanied by multiple attendants” (C05). This dependence was perceived as a significant factor affecting patients’ sense of autonomy and overall wellbeing.

lack of awareness of disease

Participants identified limited patient knowledge and poor counselling as major contributors to anxiety in individuals with CRDs. One participant noted

“But like the main reason of anxiety in these patients is... the lack of knowledge and the poor counselling given to these patients” (C07).

Others highlighted that patients’ understanding of their condition is often incomplete

“Have anxiety about their condition and particularly those patients who do not have a proper understanding of their condition” (C10),

and that disease progression frequently goes unrecognised

“Mostly the people come here with the disease that have been progressed to such state that they... don’t even know” (C08).

Low literacy was also cited as a barrier to disease comprehension

“As you may know that the literacy rate of Pakistan is around 62%” (C07), and “illiteracy and the lack of awareness and knowledge towards their disease” (C05).

The importance of patient education was emphasised

“But if a patient is unaware of the disease, he cannot manage the disease. That’s why it’s important to educate the patient about his disease” (C11), and “what kind of severity... they understand the disease has” (C04).

These findings suggest that improving patient awareness and education is critical for effective disease management and reducing anxiety.

lack of family support

Participants highlighted that inadequate family support exacerbates anxiety in patients with CRDs. One participant noted,

“Family was unsupported towards their diagnosis, symptoms of the delusions” (C09).

Such lack of support was perceived as a barrier to effective disease management and emotional wellbeing.

Structural and Systemic Barriers

Participants identified structural and systemic challenges as significant barriers to providing optimal care. One participant explained

“Quite burdensome in our area of the world because of the patient load that we have been experiencing, especially in the government setup. So, at sometimes it is very difficult for us to explain them on their level” (C08).

High patient volumes and resource limitations were perceived as impediments to effective communication, patient education, and holistic care.

5.3 Discussion

Anxiety is highly prevalent among patients with CRDs, particularly asthma and COPD, and often co-occurs with depression (C11, C05). Clinicians reported that anxiety arises from a combination of disease severity, acute exacerbations, management demands, and patients’ perceptions of their illness, manifesting through physical, cognitive, and emotional symptoms (C01, C03, C04, C06, C08, C09, C10, C13, C15). Most clinicians emphasised a direct relationship between patients’ knowledge and awareness of their disease and their ability to cope effectively, highlighting that proper counselling and education significantly reduce anxiety and improve self-management (C04, C05, C07, C08, C09, C10, C11, C12, C15). Coping strategies were both problem-focused—such as cognitive behavioural therapy, relaxation techniques, inhaler education, and patient counselling (C06, C09, C10, C11, C12, C13, C15)—

and emotion-focused, including family and social support, self-efficacy, and spiritual or religious practices (C01, C02, C04, C05, C06, C07, C09, C10, C12, C13, C14, C15). Maladaptive strategies, such as avoidance, excessive inhaler use, reliance on home remedies, and misunderstanding the chronic nature of the disease, were also observed (C01, C04, C05, C09). Barriers to effective coping included limited integration of mental health services (C02, C04, C05, C06, C08, C11), cultural stigma (C02, C06, C09, C13, C14), financial constraints (C13), dependence on others (C05, C06), low literacy (C05, C07, C08), and structural healthcare challenges (C08). These findings highlight the multifactorial nature of anxiety in CRD patients and underscore the need for holistic, patient-centred interventions addressing both medical management and psychosocial support. Table 7 shows a summary of coping strategies highlighted by Clinicians in this study.

Coping Type	Strategies / Approaches	Examples
Problem-Focused	Psychotherapy & counselling	CBT, group therapy, psychological counselling
	Relaxation & cognitive techniques	Breathing exercises, yoga, meditation, positive self-talk, thought reframing
	Social & psychological support	Family counselling, doctor/family encouragement
	Multidisciplinary approach	Referral to psychiatry, collaboration with psychologists/psychiatrists
	Patient education	Disease knowledge, structured counselling, negotiation
Emotion-Focused	Family & social support	Emotional reassurance, reducing isolation, boosting morale
	Self-efficacy	Acceptance, confidence-building, setting achievable goals
	Spiritual & religious coping	Prayers, Quranic verses, cultural rituals, faith for reassurance
Maladaptive	Avoidance	Avoiding anxiety triggers
	Excessive medication use	Overuse of inhalers, home nebulization
	Misunderstanding of disease	Expecting cure, poor adherence, frustration with chronicity
	Home remedies / local doctors	Fresh air, home treatments, nearby doctor visits

5.4 Conclusion

Anxiety is highly prevalent in patients with CRDs, driven by disease severity, management demands, and patient perceptions. Clinicians emphasised that counselling, education, and both problem- and emotion-focused coping strategies improve self-management, while maladaptive behaviours and systemic barriers hinder effective care. These findings highlight the need for holistic, patient-centred interventions and provide a basis for integrating existing literature to synthesise evidence on coping strategies for anxiety in CRD patients in South Asia.

Chapter 6: Integration of Findings

6.1 Introduction

Using multiple methods in research can happen naturally, but deliberate integration is essential to produce a coherent and meaningful outcome (Bazeley, 2024). In this study, integration was conducted at the interpretation level, combining findings from a scoping review and qualitative clinician interviews to generate comprehensive insights. Integration at this stage allows for the identification of areas of convergence, where published evidence and clinical experiences align, and divergence, where unique perspectives or discrepancies emerge. Additionally, areas of complementarity, where the two sources provide mutually enriching insights, are explored.

This approach contextualises published evidence within real-world clinical practice, offering a nuanced understanding of coping strategies for anxiety among patients with CRDs in South Asia. Integration synthesises qualitative and quantitative findings using methods such as narrative integration and joint displays, enabling the identification of patterns, relationships, and discrepancies across data sources (Fetters et al., 2013). Furthermore, the integration is guided by the Transactional Model of Stress and Coping (Folkman & Lazarus, 1984), which provides a theoretical framework for interpreting problem-focused and emotion-focused coping strategies.

By integrating the scoping review and clinician perspectives, this chapter aims to provide a holistic understanding of coping mechanisms for anxiety in CRD patients in South Asia, identifying effective strategies, contextual challenges, and culturally relevant adaptations.

6.2 Convergence

The convergence of findings (Farmer et al., 2006) from the scoping review and clinician interviews highlights several areas of agreement regarding effective coping strategies for anxiety in patients with CRDs. Both sources consistently emphasised problem-focused strategies, particularly structured psychological interventions such as CBT, group psychotherapy, and counselling. CBT emerged as a central approach, valued for its capacity to target maladaptive thoughts, enhance coping skills, and reduce physiological and cognitive symptoms associated with anxiety. Clinicians elaborated on the practical application of these interventions, noting the effectiveness of both individual and group formats in improving patient engagement and outcomes

“Follow the management plan, including the CBT and counselling.” (C10)

“CBT and any kind of therapy sessions for their better outcomes as compared to those who just take it as a taboo.” (C09)

These findings align with scoping review evidence. For example, Bhattacharyya et al. (2022) reported that CBT, group psychotherapy, or interpersonal therapy effectively reduces anxiety in patients with CRDs. Similarly, scoping review findings emphasised structured interventions in both individual and group formats to improve patient outcomes, reinforcing the consistency between clinical practice and research evidence (C06, C11). In the context of the Transactional Model of Stress and Coping, these problem-focused strategies represent adaptive mechanisms that directly address stressors, enabling patients to manage the practical demands of their disease more effectively (Folkman & Lazarus, 1984).

In addition to structured psychological interventions, both sources highlighted the effectiveness of emotion-focused coping strategies. These include family support, emotional reassurance, confidence-building, and encouragement from clinicians. Clinicians emphasised the vital role of the patient's social environment in alleviating anxiety and reinforcing coping behaviours

"They do better when they're using healthy coping strategies." (C12)

"It's compulsory for the doctor and for the family of the patient to provide psychological support." (C11)

The scoping review similarly reported that emotional support facilitates treatment adherence, reduces perceived stress, and enhances psychological resilience. Emotion-focused strategies, as outlined in the Transactional Model, help patients manage the emotional impact of chronic illness, complementing problem-focused approaches by addressing psychological and social dimensions of stress.

Another area of convergence was relaxation and lifestyle-based interventions. The scoping review highlighted interventions such as yoga, progressive muscle relaxation, and mindfulness practices. Specifically, Singh et al. (2009) reported that music therapy and progressive muscle relaxation are effective strategies for patients with COPD and anxiety. Ranjita et al. (2016) emphasised yoga as a practical mind-body intervention to reduce stress and improve coping. Clinician interviews enriched this understanding by providing detailed accounts of how relaxation techniques are implemented in practice, often alongside cognitive strategies like positive self-talk, thought reframing, and mild aerobic activity

"Breathing exercises like deep breathing, yoga, otherwise they would be relaxation techniques like meditation." (C15)

"Introduce simple cognitive strategies like positive self-talk and thought reframing." (C06)

Both sources suggest that integrating mind-body practices with structured psychological interventions creates a multifaceted approach that addresses anxiety on multiple levels cognitive, emotional, and physiological. This integrated strategy is particularly important in the South Asian context, where access to formal psychological services may be limited, and culturally adapted interventions such as yoga or meditation are widely accepted.

Furthermore, self-management and patient education emerged as a convergent theme. Both literature and clinicians emphasised the value of educating patients about their disease, management plans, and triggers for anxiety. For instance, Sharma et al (2024) highlighted self-management programs for patients with COPD and generalised anxiety, showing that structured education and goal setting improve coping and adherence. Clinicians reported that informed patients demonstrate improved adherence and reduced anxiety

“Proper understanding of their condition, they should know about the cause of the anxiety they're having.” (C10)

“But if given proper knowledge and the counselling and the patient knows about his disease, then these patients are pretty OK with that.” (C07)

Finally, while the scoping review by Younas et al (2024) reported avoidance as a maladaptive coping strategy in Pakistani patients, clinician interviews reinforced the importance of education and counselling to mitigate such maladaptive behaviours, showing strong alignment in identifying strategies that promote adaptive coping.

In summary, convergence between the scoping review and clinician interviews highlights that adaptive coping for anxiety in CRD patients is multifaceted, involving problem-focused strategies (CBT, counselling), emotion-focused strategies (family support, reassurance), relaxation and lifestyle modifications (yoga, meditation, music therapy, positive reframing), and patient education/self-management. The consistency across evidence and practice reinforces the value of structured, holistic, and culturally sensitive interventions that simultaneously target psychological, social, and lifestyle dimensions of care.

6.3 Divergence

While convergence highlights shared strategies, divergence (Farmer et al., 2006) underscores areas where the scoping review and clinician interviews reveal differences influenced by cultural, contextual, and healthcare system factors, as well as significant gaps in the literature. These differences are critical for understanding how coping strategies are adapted in practice across South Asia.

One key divergence involves mind-body and relaxation interventions. The scoping review highlighted music therapy and progressive muscle relaxation as effective strategies for managing anxiety in patients with COPD in India (Singh et al., 2009). However, these

strategies were absent in the clinician interviews conducted in Pakistan, suggesting differences in availability, clinical practice norms, or awareness of these interventions in local healthcare settings. Conversely, clinicians in Pakistan emphasised faith-based and spiritual coping strategies, including prayers, Quranic verses, and culturally specific rituals

“Some patients recite the Quran or do religious practices to calm themselves during episodes of anxiety.” (C02)

“Prayer and spiritual engagement often provide comfort and help patients cope with stress related to their condition.” (C06)

These practices were not prominently featured in the scoping review literature, reflecting both context-specific adaptation and a gap in the published evidence regarding culturally embedded coping strategies in real-world practice.

Practical coping strategies and referral pathways also showed divergence. Clinicians described formal and informal pathways for psychological support, such as family counselling, encouragement by doctors, and referrals to psychiatrists or psychologists. These pathways were underreported in the scoping review, revealing a significant gap in the literature on operational aspects of anxiety management

“We often have to negotiate with patients and families to follow counselling sessions; it is not just a one-time advice.” (C09)

“Referral to a psychologist is not always possible, so we use structured counselling and family involvement instead.” (C10)

Another area of divergence relates to maladaptive coping strategies. While the scoping review by Younas et al (2024) reported avoidance as a common maladaptive behaviour among CRD patients in Pakistan, clinician interviews provided additional context, noting overuse of inhalers, reliance on home remedies, and unrealistic expectations regarding cure

“Some patients overuse inhalers or rely on home remedies without understanding the chronic nature of their disease.” (C04)

“They often expect quick fixes and don’t follow long-term management, which worsens anxiety.” (C05)

These practical observations, rarely reported in the literature, highlight gaps in understanding patient behaviour in routine care and emphasised the importance of incorporating clinician perspectives to inform effective interventions.

Cultural divergence also extends to self-management programs and lifestyle interventions. While self-management programs were reported in the literature from Nepal (Sharma et al., 2024) and included structured education and goal setting, Pakistani clinicians described similar strategies in practice but adapted to local literacy levels, family involvement, and socioeconomic constraints

“We spend time explaining the disease and its management in simple language, sometimes using family members to reinforce the advice.” (C07)

“Patients with low literacy need repeated counselling and demonstrations for inhaler use and exercises.” (C08)

Finally, divergence demonstrates the influence of health system structure and resource availability. Certain interventions, such as music therapy may be more common in research contexts or well-resourced Indian settings (Singh et al., 2009) but are less feasible in Pakistani clinical practice due to resource constraints, staffing, and patient load. Clinicians emphasised practical strategies that can be implemented in routine care, such as counselling, breathing exercises, and family engagement.

“We focus on interventions that can actually be done in our busy clinics, like breathing exercises, counselling, and family involvement.” (C13)

In summary, divergence between the scoping review and clinician interviews highlights cultural, structural, and contextual factors, as well as substantial gaps in the literature. While the literature emphasizes interventions such as music therapy, yoga, and progressive muscle relaxation, clinicians prioritize culturally relevant and feasible approaches, including faithbased practices, family support, structured counselling, and management of maladaptive coping behaviours. Recognizing these is critical for designing context-sensitive, patientcentred interventions that integrate both published evidence and local clinical realities in South Asia. Table 8 presents Integration of Scoping Review findings and clinician interviews on coping strategies for anxiety in CRDs patients.

Scoping Review Findings	Clinician Interview Findings (with Quotes)	Integration (Convergence / Divergence / Complementarity)
CBT, group psychotherapy, interpersonal therapy (Bhattacharyya et al., 2022)	CBT, group therapy, psychological counselling <i>"Follow the management plan, including the CBT and counselling."</i> (C10) <i>"CBT and any kind of therapy sessions for their better outcomes as compared to those who just take it as a taboo."</i> (C09)	Convergence: Strong overlap; both emphasize structured psychotherapy as a central intervention
Yoga (Ranjita et al., 2016), Progressive Muscle Relaxation, Music therapy (Singh et al., 2009)	Breathing exercises, yoga, meditation, positive self-talk, thought reframing <i>"Breathing exercises like deep breathing, yoga, otherwise they would be relaxation techniques like meditation."</i> (C15) <i>"Introduce simple cognitive strategies like positive self-talk and thought reframing."</i> (C06)	Convergence: Both support mind–body interventions; interviews provide richer detail and cognitive adaptation. Divergence: Music therapy reported in literature but not implemented in local practice; faith-based coping highlighted in interviews but absent in literature.
Self-management programs (Sharma et al., 2024)	Disease knowledge, structured counselling, negotiation, acceptance, goal setting <i>"We spend time explaining the disease and its management in simple language, sometimes using family members to reinforce the advice."</i> (C07)	Complementarity: Both stress self-management; interviews contextualize through counselling, literacy adaptation, and family involvement.
	Family counselling, doctor/family encouragement, reducing isolation <i>"It's compulsory for the doctor</i>	Divergence: Emphasised in practice but less in literature; reflects South Asian social

		context and local family involvement.
	<i>and for the family of the patient to provide psychological supports.” (C11)</i>	
	Referral to psychiatry, collaboration with psychologists/psychiatrists <i>“Referral to a psychologist is not always possible, so we use structured counselling and family involvement instead.” (C10)</i>	Divergence: Practical referral pathways reported by clinicians but not explicit in published evidence.
	Spiritual/religious coping (prayers, Quranic verses, cultural rituals) <i>“Some patients recite the Quran or do religious practices to calm themselves during episodes of anxiety.” (C02)</i>	Divergence: Unique cultural dimension emerging only in interviews; gap in literature.
Avoidance, maladaptive behaviours (Younas et al., 2024)	Avoidance of triggers, inhaler overuse, home remedies, unrealistic cure expectations <i>“Some patients overuse inhalers or rely on home remedies without understanding the chronic nature of their disease.” (C04)</i>	Divergence: Clinicians highlight maladaptive patterns absent in most literature; identify a gap for practical intervention planning.

Table 8. Integration of Scoping Review findings and Clinicians Interviews findings

6.4 Conclusion

The integration of scoping review evidence with clinician interviews provides a comprehensive understanding of coping strategies for anxiety in CRD patients. Convergent findings reinforce the effectiveness of structured psychological interventions, relaxation techniques,

selfmanagement, and family support, while divergent findings highlight cultural, contextual, and system-level differences, including faith-based practices and locally adapted strategies. Applying the Transactional Model of Stress and Coping offers a theoretical lens to interpret both adaptive and maladaptive coping mechanisms. This integrated analysis demonstrates that combining published evidence with real-world clinical insights is essential for developing contextually relevant, implementable strategies to manage anxiety in patients with CRDs in South Asia.

Chapter 7: Conclusion

7.1 Summary of Findings

This study aimed to explore coping strategies for anxiety in patients with CRDs in South Asia, integrating evidence from literature and clinician perspectives. CRDs, including asthma, COPD, and interstitial lung disease, are prevalent across South Asia and are frequently associated with significant psychological comorbidities, particularly anxiety. Anxiety in CRD patients can exacerbate physical symptoms, reduce treatment adherence, and impair overall quality of life. Therefore, understanding how patients cope with anxiety is critical for developing effective interventions and improving patient outcomes.

The scoping review conducted as part of this study revealed a diverse range of coping strategies employed across South Asian contexts.

Structured psychological interventions, such as CBT, emerged as a consistently effective approach for reducing anxiety levels. CBT allows patients to identify maladaptive thought patterns, develop problem-solving skills, and adopt healthier coping mechanisms. Similarly, mind-body interventions, including yoga, meditation, and other relaxation techniques, were frequently reported as beneficial for both physiological and psychological outcomes. Music therapy and mindfulness-based practices also demonstrated potential in alleviating anxiety, although the evidence base for these interventions in South Asia remains limited.

Social support mechanisms, including family involvement, peer support, and counselling, were identified as critical elements in strengthening coping capacity. Clinician insights highlighted that family engagement and community support play a significant role in South Asian cultural contexts, where familial ties are often central to daily life and healthcare decision-making. Moreover, knowledge-sharing, and patient education emerged as pivotal strategies for enhancing adherence to treatment plans and fostering a sense of empowerment among patients. Collectively, these findings underscore that effective anxiety management in CRD patients requires a multifaceted approach that integrates psychological, behavioural, and social interventions tailored to individual and cultural contexts.

Clinician interviews provided further depth to the understanding of coping strategies. Practitioners emphasised the need to tailor interventions to patients' unique needs, considering cultural norms, educational backgrounds, socioeconomic factors, and disease severity. They also highlighted challenges, including limited access to mental health resources, patient resistance to psychological interventions, and gaps in healthcare infrastructure that constrain the delivery of comprehensive care. These insights illuminate the complex interplay

between clinical practice, patient behaviour, and cultural context in the management of anxiety among CRD patients.

7.2 Recommendations for Clinical Practices

Based on the findings of this study, several recommendations for clinical practice can be outlined. First, clinicians should prioritize structured interventions such as CBT, yoga, meditation, and other relaxation techniques. These interventions should be implemented in a way that is adaptable to patient preferences, cultural norms, and resource availability. Structured programs can provide patients with a consistent framework for developing coping skills while also addressing the cognitive and emotional aspects of anxiety.

Family involvement and psychological support remain essential for reinforcing coping capacity. Clinicians should actively engage family members in the care process, educating them on how to support patients effectively. Counselling sessions should emphasize communication skills, problem-solving, and emotional support, thereby enabling patients to navigate both their physical symptoms and psychological challenges. Patient education is another crucial component; understanding the nature of their disease and the rationale behind treatment plans can foster adherence, improve confidence, and reduce anxiety. Knowledge sharing should be culturally sensitive, considering literacy levels, local beliefs, and health perceptions.

Importantly, interventions should be individualized. Clinicians should assess each patient's coping style, cultural background, and personal preferences before recommending specific strategies. For example, while yoga or meditation may resonate with some patients due to cultural familiarity, others may prefer music therapy or CBT. Flexibility in approach ensures higher engagement, better adherence, and, improved patient outcomes. Table 9 shows a summary of recommendations.

Recommendations	Key Actions
Integrate Coping Interventions	Incorporate problem-focused strategies (CBT, relaxation techniques, inhaler training) and emotion-focused approaches (family support, self-efficacy, spirituality).
Enhance Patient Education and Counselling	Provide structured education on CRDs, management strategies, and coping techniques, tailoring communication to the literacy, understanding, and cultural context of everyone.
Train Healthcare Providers	Improve empathetic communication, psychosocial support skills, and knowledge of referral pathways to mental health services.
Improve Access to Mental Health Support	Facilitate access to mental health specialists within respiratory care, either on-site or through coordinated referrals, for managing anxiety and depression.

Address Cultural and Systemic Barriers	Implement culturally sensitive counselling to reduce stigma and develop strategies to overcome systemic challenges, such as high patient load and limited resources.
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Table 9. Recommendations for clinical practices

7.3 Recommendations for Research

This study also highlights the need for further research across South Asia. Although evidence from countries such as India, Pakistan, and Sri Lanka is available, there remains a scarcity of research in other South Asian nations. Cultural differences, healthcare infrastructure, and socio-economic factors can significantly influence the effectiveness and acceptability of coping strategies. Therefore, region-specific research is essential to develop interventions that are culturally and contextually appropriate.

Future research should actively include patients with CRDs to capture first-hand experiences and insights into coping mechanisms. Direct patient perspectives would provide a richer understanding of lived experiences, complementing the clinician-focused data collected in this study. Moreover, longitudinal studies are needed to evaluate the sustained effectiveness of specific interventions, as anxiety management is often an ongoing process rather than a onetime treatment.

Another critical area for future investigation is the evaluation of individual coping strategies. While this study identified multiple effective interventions, research often examines these strategies collectively. Isolating the effects of CBT, yoga, meditation, music therapy, or social support individually can help determine their standalone efficacy. Comparative studies can also identify which strategies are most suitable for subgroups of patients, such as those with severe COPD or limited mobility. Such research will enable the development of evidencebased, culturally sensitive clinical guidelines tailored to the South Asian context.

7.4 Contribution to Knowledge

This study makes a significant contribution to knowledge in several ways. First, it maps the diversity of coping strategies for anxiety in CRD patients across South Asia, combining literature evidence with clinician insights. This dual approach offers a comprehensive understanding of both evidence-based interventions and practical implementation challenges. Second, the study provides a culturally contextualized perspective, highlighting the importance of considering familial, social, and cultural factors when designing interventions. Third, by integrating scoping review findings with clinician experiences, this research bridges the gap between theoretical knowledge and real-world practice. It offers actionable insights that can inform both clinical decision-making and policy development.

Furthermore, this study identifies gaps in current research and clinical practice. Limited patient-centred studies, a lack of region-specific evidence, and insufficient evaluation of individual coping strategies are key areas that require attention. Addressing these gaps will strengthen the evidence base and enhance the quality of care for CRD patients experiencing anxiety.

7.5 Strengths and Limitations

A key strength of this study is the integration of multiple data sources, namely the scoping review and clinician interviews. This methodological triangulation provides a more comprehensive and nuanced understanding of coping strategies than would be possible through a single approach. The inclusion of clinician perspectives enhances the practical relevance of the findings, shedding light on real-world challenges, cultural considerations, and barriers to implementation within healthcare settings.

However, the study is not without limitations. The clinician interviews were conducted primarily in Pakistan, which may not fully capture the diversity of healthcare practices and cultural contexts across the wider South Asian region. Moreover, direct patient interviews were not undertaken, limiting the study's ability to reflect the firsthand experiences and subjective perspectives of those living with CRDs and anxiety. Another limitation is related to language: English is not the first language of either the researcher or the participating clinicians. While every effort was made to ensure clarity and accuracy, it is possible that subtle nuances in meaning, or conceptual understanding may have been missed or slightly altered during the interview process. This linguistic factor should be considered when interpreting the findings. Despite these limitations, the combination of evidence from the literature and insights from clinicians provides valuable knowledge that can inform both future research and clinical practice. The study's strength lies in its ability to bridge theoretical understanding with applied clinical perspectives, offering a richer and more contextually grounded view of coping strategies for anxiety in CRDs. Table 10 presents strengths and limitations of this study.

Strengths	Limitations
Use of two complementary methods: scoping review and clinician interviews.	Limited to Pakistan, reducing regional generalisability
Clinician perspectives added practical and cultural relevance.	No direct patient involvement, limiting experiential insights
	English is not the first language of researchers or clinicians, which may have affected conceptual clarity.

7.6 Implications for Practice and Policy

The findings of this study have several implications for clinical practice and policy. Clinicians should adopt a holistic approach to managing anxiety in CRD patients, integrating psychological, behavioural, and social interventions. Health systems should invest in training healthcare professionals in mental health care and culturally sensitive communication to improve the delivery of anxiety management strategies. Policymakers should prioritise the development of region-specific guidelines for anxiety management in CRD patients, ensuring that interventions are accessible, evidence-based, and adaptable to cultural contexts. Implementation of these recommendations can improve patient outcomes, enhance treatment adherence, and reduce the overall burden of anxiety on CRD patients. A focus on culturally informed interventions is particularly important in South Asia, where social and familial structures play a central role in health behaviours and coping mechanisms.

7.7 Final Conclusion

In conclusion, this study underscores the critical importance of culturally informed, evidencebased interventions for managing anxiety in patients with CRDs in South Asia. Anxiety significantly impacts both psychological well-being and disease management, making effective coping strategies essential for improving patient outcomes. This research highlights the diversity of interventions available, including CBT, yoga, meditation, music therapy, social support, and patient education, and emphasizes the need for individualized, culturally sensitive approaches.

The integration of scoping review findings with clinician perspectives provides a comprehensive understanding of coping strategies, bridging the gap between theory and practice. While there are limitations, including regional focus and lack of direct patient input, the study contributes valuable insights to both research and clinical practice. There is a clear need for further research, particularly region-wide studies that include patient perspectives, evaluate individual coping strategies, and assess long-term outcomes.

The findings of this study have the potential to inform clinical practice, policy development, and future research, leading to improved support for patients with CRDs, enhanced treatment adherence, and better physical and psychological outcomes. By fostering culturally appropriate and evidence-based interventions, healthcare providers can empower patients to manage anxiety effectively, improving their overall quality of life and contributing to sustainable health outcomes in South Asia.

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Appendices

A. Data Extraction chart of scoping review

Author	Year	Location	Study Design	Sample Size	CRDs (Asthma / COPD)	Anxiety disorder	Key findings	Coping strategies	Study Method
Singh et al.,	2009	India	Randomized clinical trial pilot	82	COPD	anxiety	In hospitalized COPD patients with exacerbation music and progressive muscle relaxation are effective in reducing anxiety. Music therapy is more effective than PMR	Music therapy and Progressive muscle relaxation	quantitative
Ranjita et al.,	2016	India	randomized clinical trial	81	COPD	anxiety	12 weeks of integrated yoga enhanced health status and reduced anxiety in coal miners with COPD.	yoga practice for 12 weeks	quantitative
Bhattacharyya et al.,	2022	India	clinical practice guide/narrative view	no sample	chronic respiratory diseases	Generalized anxiety disorders/ panic disorder/social anxiety disorder/posttraumatic stress disorder/specific phobia	Cognitive behavioral therapy, group psychotherapy, interpersonal therapies are effective for moderate-to-severe depressive or anxiety disorders,	CBT or group psychotherapy or interpersonal therapies	qualitative
Sharma et al.,	2024	Nepal	Quasiexperimental pre-test post-test design	70	COPD	Generalized Anxiety Disorders (GAD-7).	self-management interventions improve the self-management practice, inhaler practice, and functional ability and reduce anxiety and depression	self management intervention	quantitative/quantitative
Younas et al.,	2024	Pakistan	cross sectional design	384	chronic illness/chronic respiratory diseases	Hospital anxiety and depression	CRDs patients have less anxiety but more depression than other groups like CVS cancers but CRDs patients adopt coping avoidance strategies	coping avoidance strategies	qualitative

B.Clinicians - Interview Questions

1	Can you tell me about your experience in treating patients with chronic respiratory diseases?	
2	How often do you encounter anxiety-related issues in CRD patients? Do you have any idea about the incidence of anxiety in CRDs in figures?	
3	Can you tell me what symptoms they present when they come with anxiety?	
4	How do your patients typically perceive their CRDs? In your opinion, do they see it as a major threat or something they can manage?	
5	What are the common coping strategies you're your patients use to deal with anxiety related to their condition?	
6	As a clinician, do you think that patients who have a better understanding of their disease have less anxiety?	
7	Can you tell me what role social support and cultural beliefs play in how CRD patients cope with anxiety?	
8	Have you noticed any difference between patients who develop healthy coping strategies (e.g., breathing exercises, relaxation techniques) versus those who use maladaptive coping (e.g., avoidance, denial)?	
9	How do you, as a clinician, help patients reframe their anxiety or stress in a way that promotes better coping?	
10	In your view, what is needed for better integration of mental health services in respiratory care, and how can this be achieved?	
11	What recommendation would you give to improve the management of anxiety in CRD patients in Pakistan?	

C.Approved Ethic Checklist

About Your Checklist	
Ethics ID	63503
Date Created	02/03/2025 11:49:44
Status	Approved
Date Approved	02/07/2025 17:20:28
Risk	High

Researcher Details	
Name	Zainab Tuba
Faculty	Faculty of Health & Social Sciences
Status	Postgraduate Research (MRes, MPhil, PhD, DProf, EngD, EdD)
Course	Postgraduate Research - HSS
Have you received funding to support this research project?	No
Please list any persons or institutions that you will be conducting joint research with, both internal to BU as well as external collaborators.	No

Project Details	
Title	Coping strategies for anxiety in chronic respiratory diseases in South Asia :Clinicians Interviews
Start Date of Project	15/10/2024
End Date of Project	15/04/2028
Proposed Start Date of Data Collection	15/06/2025
Original Supervisor	Pramod Regmi
Approver	Research Ethics Panel
Summary - no more than 600 words (including detail on background methodology, sample, outcomes, etc.)	
The aim of study is to identify coping strategies or management options in patients facing chronic respiratory diseases (CRDs) like Asthma and COPD with anxiety or fear related disorders specifically in South Asian countries such as Pakistan, India etc .The objectives of this research are (a)to identify coping strategies for anxiety in chronic respiratory diseases in South Asia through existing literature (b)to explore the perspectives and experiences of clinicians regarding patients of chronic respiratory diseases with anxiety through survey in Pakistan. This research is significant due to the high prevalence of CRDs in South Asia and the growing recognition of anxiety as a comorbid conditions that affects disease outcomes. Understanding coping strategies and clinician perspectives will provide insights for improving patient management, mental health support, and clinical practices.	

D.Participant Agreement Form

Ref & Version:SI-11
Ethics ID number: 63503
Date:20 MAY 2025



Participant Agreement Form

Full title of project: Coping strategies for anxiety in chronic respiratory diseases in South Asia: Clinician Interviews

Name, position and contact details of researcher: Dr Zainab Tuba
Postgraduate Researcher Bournemouth University, UK Email address
is ztuba@bournemouth.ac.uk .

Name, position and contact details of supervisor : Dr Lindsay Welch
Associate Professor In Nursing Practice HSS by Email
welchl@bournemouth.ac.uk .

To be completed prior to data collection activity

Section A: Agreement to participate in the study

You should only agree to participate in the study if you agree with all of the statements in this table and accept that participating will involve the listed activities.

Initial each box for agreement	Initial
I have read and understood the Participant Information Sheet SI10 and have been given access to the BU Research Participant Privacy Notice which sets out how we collect and use personal information (https://www1.bournemouth.ac.uk/about/governance/access-information/dataprotection-privacy).	
I have had an opportunity to ask questions.	
I understand that my participation is voluntary. I can stop participating in research activities at any time without giving a reason and I am free to decline to answer any question(s).	
I understand that taking part in online interview will include the following activities as part of the research: • Taking part in one-to-one interview in English • being audio recorded during the interview with transcription. • my words will be quoted in publications, reports, web pages and other research outputs without using my real name	

I understand that, if I withdraw from the study, I will also be able to withdraw my data from further use in the study except where my data has been anonymised (as I cannot be identified) or it will be harmful to the project to have my data removed.	
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E. Participant Information Sheet



Date: 6th March 2025

Ref & Version: **SI-11**
Ethics ID: 63503

Participant Information Sheet:

The title of the research project:

Coping strategies for anxiety in chronic respiratory diseases in South Asia: Clinical interviews

Invitation to take part

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

What is the purpose of the project?

The aim of study is to identify coping strategies or management approached for anxiety in patients with chronic respiratory diseases like Asthma and COPD. The study will focus specifically on South Asian countries because this region has a high burden of chronic respiratory diseases, such as COPD and asthma, and a large population affected by anxiety and other mental health conditions. Despite this, there is limited research on how people in South Asia cope with anxiety related to chronic respiratory illness. Therefore, the main objective is to explore the perspectives and experiences of clinicians caring for patients of chronic respiratory diseases who have concurrent anxiety. The perspectives will be investigated through an online semi structured interview via teams. **The interview**

will be in English and recorded and transcribed on teams for data collection purposes.

Why have I been invited?

You have been invited because you are a clinician working with patients of chronic respiratory diseases and anxiety from two years in Pakistan.

F.Summary of themes and sub themes

Theme	Sub-theme
Clinical Features and Triggers of Anxiety in CRDs	High prevalence of anxiety in CRDs Symptomology of anxiety in CRDs Acute exacerbations trigger anxiety Perceptions of Illness Management related anxiety
Problem-focused coping	Psychotherapy and Psychological Support Relaxation Techniques and Lifestyle Modifications Multidisciplinary Team Approach Proper counselling and knowledge of disease
Emotion-focused coping	Family and Social Support self-efficacy Spiritual and religious coping
Maladaptive Coping	Avoidance Excessive use of inhaler or revolizer in anxiety Misunderstanding of Chronic Disease Nature Use of home remedies; Seeking nearby doctor support

Education and awareness	Knowledge as a Tool for Disease Control Awareness of magnitude of anxiety-related problems Communicating at the patient's level Detailed Patient Education Literacy and understanding Training for respiratory care providers Proper inhalers use education
Cultural Influences on Coping	Misattribution of illness Cultural taboos and stigma Financial burden of treatment Inhaler technique related anxiety
Barriers to Effective Coping	Limited integration of mental health into CRD care Cultural belief limiting holistic care Dependence on others / loss of autonomy lack of awareness of disease lack of family support Structural and Systemic Barriers



Data%20Analysis%20V1.xlsx

G .Interview Guide

Interview guided (Semi structured interviews):

Coping strategies for anxiety in chronic respiratory diseases in South Asia :Clinical interview in Pakistan

Objective:

The main objective of this study is to explore the perspectives and experiences of clinicians regarding patients of chronic respiratory diseases with anxiety through interviews in Pakistan

Research Design:

Due to the exploratory nature of this study, a qualitative research design is employed through online short interviews. This approach allows for flexibility in data collection, enabling a deep insight related to coping strategies for anxiety and chronic respiratory diseases through the experiences of clinicians in Pakistan. According to Dunwoodie et al.,2023 this study uses a combination of deductive and inductive approaches. Interview questions are informed by Folkman and Lazarus's theory of stress and coping (deductive), while the data will also be open to emerging themes identified during analysis (inductive).

Target Population and Sampling

The target population for this research includes clinicians who worked for more than two years with patients suffering from CRDs and anxiety in Pakistan. A purposive snowball sampling strategy will be adopted, focusing on healthcare professionals from various backgrounds, including pulmonologists, psychologists, and general practitioners. The diversity in clinicians will provide a comprehensive perspective on the coping strategies they observe and recommend to their patients (Palinkas et al., 2015).

The sample size will be determined by medical network based on the willingness of clinicians for being interviewed because recruitment is challenging. Due to time constraints and availability an initial sample size of 10-15 clinicians is anticipated.

Interview Preparation

Preparatory work includes a thorough literature review on CRDs, anxiety, and coping strategies, as well as understanding the cultural context of Pakistan. The researcher will develop an interview guide that outlines key aspects and questions designed to guide the researcher during interview and prompt open discussions. Interview questions may cover topics such as observed coping strategies, recommendations for patient support, and cultural factors influencing anxiety according to Lazarus and Folkman's Theory. Prior to full-scale data collection, a pilot test of the interview questions will be conducted with two clinicians to assess clarity and relevance. Feedback will be incorporated to refine the questions further.

H. Scoping review protocol

Coping strategies of anxiety in Chronic Respiratory diseases in South

Authors: Dr Zainab Tuba, Dr Lindsay Welch, Dr Helena De Rezende ,Dr Pramod Regmi

Faculty of Health and Social Sciences, Bournemouth University, Bournemouth Gateway Building, Bournemouth, BH8 8GP, UK

Background and Rationale .

The aim of this study is to Identify different coping strategies for anxiety in patients of chronic respiratory diseases in South Asian countries like Pakistan ,India , Bangladesh etc. Chronic respiratory diseases (CRDs), particularly chronic obstructive pulmonary disease (COPD) and asthma, represent a significant public health burden globally, contributing to millions of deaths annually (Burney et al., 2015). According to the World Health Organization (WHO, 2020), COPD remains a major cause of morbidity and mortality despite the decreasing burden in some regions. In 2019, there were 212.3 million prevalent cases of COPD, which resulted in 3.3 million deaths and 74.4 million disability-adjusted life years (DALYs) (Vos et al., 2020). In 1990, COPD was the second leading cause of death globally, but by 2019 it had become the third leading cause (Vos et al., 2020). Additionally, asthma affected 262 million people worldwide, with an age-standardized rate of 3,416 cases per 100,000 population (Soriano et al., 2020). COPD is primarily caused by inhaled particles, often linked to smoking and environmental pollution, which are more prevalent in countries with high tobacco use and poor air quality, such as Pakistan (Institute for Health Metrics and Evaluation, 2019).

COPD involves both the airways and lung tissues, leading to symptoms such as shortness of breath, chronic cough, and fatigue (Mayo Clinic, 2023). Asthma, on the other hand, is a complex disorder influenced by a range of factors, including allergens, environmental pollutants, weather, smoking, and stress. Genetic predisposition also plays a key role; individuals with a family history of asthma and atopy are at significantly higher risk (Soriano et al., 2020). Asthma results in airway inflammation that causes wheezing, breathlessness, and chest tightness (National Centre for Biotechnology Information, 2011).

These conditions not only compromise physical health but are also closely associated with psychological distress. According to the International Classification of Diseases 11th Revision (ICD-11), Anxiety and fear-related disorders are characterised by excessive fear and anxiety and related behavioural disturbances, with symptoms that are severe enough to