Ανεκπλήρωτες Ανάγκες Ασθματικών Ασθενών: Συστηματική Ανασκόπηση

Unmet Needs of Asthmatic Patients: A Systematic Review

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Περίληψη

Εισαγωγή: Τα επιδημιολογικά δεδομένα καταδεικνύουν ότι ένα σημαντικό ποσοστό ασθενών δεν έχει επαρκώς ελεγχόμενο άσθμα. Η πάθηση αυτή επηρεάζει μεγάλο αριθμό ατόμων, με το 25%-40% των ασθενών να εμφανίζουν παροξύνσεις σε διαφορετικά στάδια της κατάστασής τους.

Σκοπός: Η παρούσα εργασία αποσκοπεί στον εντοπισμό άρθρων που αναφέρονται στις ανάγκες των ατόμων με άσθμα, συμπεριλαμβανομένων των εκπαιδευτικών και ψυχοκοινωνικών παραγόντων.

Υλικό και Μέθοδος: Πραγματοποιήθηκε συστηματική αναζήτηση βιβλιογραφίας στις βάσεις δεδομένων PubMed, Mendeley, Google Scholar και Cochrane με σκοπό τον εντοπισμό πιθανών αναγκών των ασθενών με άσθμα, συμπεριλαμβανομένων των εκπαιδευτικών και ψυχοκοινωνικών παραγόντων, χρησιμοποιώντας ως λέξεις κλειδιά «άσθμα, ανάγκες φροντίδας, ανεκπλήρωτες ανάγκες, ανάγκες άσθματος και ασθενείς». Κριτήριο ένταξης αποτέλεσαν άρθρα που δημοσιεύτηκαν στην αγγλική γλώσσα από το 2013 έως το 2023.

Αποτελέσματα: Η αναζήτηση κατέληξε σε πέντε μελέτες που πληρούσαν τα προκαθορισμένα κριτήρια συμπερίληψης και αποκλεισμού. Χρησιμοποιήθηκε το εργαλείο 13-NEAT και χρησιμοποιήθηκε για την αξιολόγηση της μεθοδολογικής ποιότητας των μελετών. Οι τέσσερις γενικές κατηγορίες αναγκών ταξινομήθηκαν στις ενημερωτικές ανάγκες, την εξέταση των απόψεων των ασθενών στη διάγνωση, στην εξέταση των απόψεων των ασθενών στον σχεδιασμό της θεραπείας και στην αντιμετώπιση του φόβου των ασθενών. Τα προβλήματα ψυχικής υγείας αναγνωρίστηκαν ως παράγοντες κινδύνου για κακή πρόγνωση στους ασθματικούς ασθενείς. Οι ασθενείς πρέπει να συμμετέχουν περισσότερο στην ανάπτυξη του προγράμματος διαχείρισής τους.

Συμπεράσματα: Η κατανόηση των αναγκών των ασθενών με άσθμα είναι ζωτικής σημασίας για την ολιστική προσέγγιση των θεμάτων υγείας που σχετίζονται με το άσθμα. Η παρούσα συστηματική ανασκόπηση θα συμβάλει στην ανάπτυξη στοχευμένων προγραμμάτων αυτοδιαχείρισης για ασθενείς με άσθμα.

Λέξεις κλειδιά: ***Άσθμα, Ανάγκες Φροντίδας, Ανεκπλήρωτες ανάγκες, Ανάγκες για το άσθμα, Ασθενείς.***

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Abstract

Introduction: Epidemiological data indicates that a significant proportion of patients with asthma have uncontrolled disease. Asthma affects many individuals, with 25%-40% of patients experiencing exacerbations at different stages of their condition.

Aim: The paper aimed to identify all potential needs of patients with asthma, including educational and psychosocial factors.

Material and Methods: A systematic literature search was conducted in PubMed, Mendeley, Google Scholar, and Cochrane databases to identify all potential needs of asthmatics, including educational and psychosocial factors, using the words “asthma, care needs, unmet needs, asthma needs, and patients”. Inclusion criteria were articles published in English from 2013 to 2023.

Results: The search yielded five studies that met the predefined inclusion and exclusion criteria. The 13-NEAT tool was used to assess the methodological quality of the studies. The four broad categories of patient needs identified were: informational needs, consideration of patient perspectives in diagnosis, consideration of patient opinions in treatment planning, and addressing patients’ fears. Mental health issues were recognized as risk factors contributing to poor outcomes in individuals with asthma. Greater patient involvement in the development of their management program is essential.

Conclusions: Understanding asthma related-needs from patient’s perspective is crucial for a more comprehensive approach to their health challenges. This systematic review can contribute to the design of person-centered, self-management programs tailored to the specific needs of individuals living with asthma.

Keywords: ***Asthma, Care needs, Unmet needs, Asthma needs, and Patients***

INTRODUCTION

Asthma is a chronic respiratory condition characterized by airway inflammation of the airways (Loerbroks, Sheikh, et al., 2016).The Asthma prevalence in the general population ranges from 1 to 18% (Caminati et al., 2021). In the European Union, 8.2% of the adult population have been affected by Asthma (Caminati et al., 2021). Epidemiological data indicate that a significant proportion of patients do not have their asthma well-controlled (Price, Fletcher and Van Der Molen, 2014). According to the Global Initiative for Asthma (GINA), inadequate asthma control can lead to poor management of symptoms and a diminished quality of life (QoL) (Caminati et al., 2021).

Asthma affects many individuals, with 25%-40% of patients experiencing exacerbations at different stages of their condition (Pourdowlat, Hejrati and Lookzadeh, 2019). The impact of stress cannot be overlooked, as it significantly exacerbates inflammation and muscle contractions in the airways, leading to an alarming 40% increase in asthma attacks (Pourdowlat, Hejrati and Lookzadeh, 2019). This reality underscores the urgent need for comprehensive management strategies that address physical and emotional health. Poorly controlled asthma is detrimental not only to individuals' health but also to their productivity and QoL (Gruffydd-Jones, 2019). In the UK, 24% of patients have reported that their asthma symptoms adversely impact their work or educational pursuits (Stephen Scott, 2017). This highlights a critical gap in care: the necessity for robust educational interventions for both; the patients and the healthcare providers (Stephen Scott, 2017). By prioritizing these educational initiatives, asthma management may effectively respond to patients' unmet needs and ultimately enhance their QoL. The current systematic review aims to identify all potential needs of asthma patients, including educational and psychosocial factors.

METHODOLOGY

2.1 Study design

A systematic literature was conducted using PubMed, Mendeley, Google Scholar, and Cochrane databases. The keywords used to identify all relevant articles were: "asthma", "care needs", "unmet needs", "asthma needs" and "patients" in all possible combinations using the word "AND". The "similar articles" tool in PubMed was also used.

The inclusion and exclusion criteria were predefined. Inclusion criteria were articles published in English from 2013 to 2023, including patients with asthma over 18 years old, and all study designs were accepted. Two authors (CL and AH) independently screened the literature included in this review. The whole procedure included full consensus after a detailed assessment of full-text documents and the input of a third author (EL) when needed. Exclusion criteria were articles that referred to patients with asthma under 18.

2.2 Quality Assessment

Two authors (CL and AH) assessed the methodological quality of the included studies. The studies were evaluated using the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) (Page et al., 2021).

RESULTS

3.1 General Characteristics of the included studies

The current systematic review was conducted to identify all possible care needs of patients with chronic asthma. Quantitative studies (Pourdowlat G. et al., 2019 & Salandi J. et al., 2020), mixed methodology studies (Gaylor Hoskins et al., 2016 and Loerbroks A. et al., 2016), and a cross-sectional study (Loerbroks et al., 2016), were identified to respond to the aim of this review. The studies were undertaken in the UK (Loerbroks, Sheikh, et al., 2016), Germany (Loerbroks, Leucht, et al., 2016) & (Salandi et al., 2020) Iran (Pourdowlat, Hejrati and Lookzadeh, 2019) and Scotland (Hoskins et al., 2016)

The most common tool used in the included studies was the 13-Need in asthma treatment (NEAT) developed and validated by Loerbroks et al., (2016). It includes four subscales: 1. Recognition of patient expertise by health professionals, 2. Information on drug effects, 3. Information and training related to the handling of drugs, and 4. Responding to exacerbations. The NEAT tool has been developed in a multi-stage process involving repeated focus groups with patients and cognitive interviews (Loerbroks, Sheikh, et al., 2016). The mean scores on the subscales of drug effects, handling asthma drugs, exacerbations, and patient expertise were X=0.58 (SD=0.40), X=0.17 (SD=0.28), X=0.39 (SD=0.38) and X=0.34 (SD=0.38), respectively (Loerbroks, Sheikh, et al., 2016).

3.2 Education/Information

Educational and informational needs in asthma encompass a wide range of patient challenges. The main unmet need in asthma management seems to be non-adherence to the treatment (Caminati et al., 2021). Informational needs, consideration of patient perspectives during diagnosis, consideration of patients' opinions in treatment planning, and addressing patients' fears were the four broad needs categories that loomed over from the focus groups (Loerbroks, Leucht, et al., 2016). Patients expressed their informational needs on medications (e.g) dosing, pharmacological effects, and alternative treatments), triggers/causes of asthma, the pathophysiology of asthma, lifestyle modifications, individual asthma prognosis, and information on how to behave during asthma exacerbations (Loerbroks, Leucht, et al., 2016). Medication, information about their exacerbation, how to handle asthma drugs, education about their disease, and psychological needs, and stressful conditions were a few of their educational needs (Loerbroks, Sheikh, et al., 2016). Patients' needs were also mentioned in information about the side effects of medication, information on how to take their medication correctly, information regarding whether asthma inhalers may be taken more often than prescribed, and what to do during an asthma exacerbation (Loerbroks, Sheikh, et al., 2016). A need for practical exercise breathing techniques was also recognized to be helpful during asthmatic exacerbations (Salandi et al., 2020).

The lack of effective asthma treatment remains a significant unmet need (Gruffydd-Jones, 2019). Both; health professionals

and patients acknowledge the need for new medication options to treat airway inflammation (Gruffydd-Jones, 2019). While inhaled corticosteroids and long-acting beta-agonists are the foundation of asthma management, patient compliance with these treatments continues to be low (Salandi et al., 2020).

Major implications for educational needs were referred to the acute events in asthma exacerbations that require Emergency Room (ER) visits. Furthermore, asthma deaths have been described mostly in mild-to-moderate asthmatics (Caminati et al., 2021). Poor adherence rate to the prescribed drugs, lack of regular follow-up visits, unsatisfactory disease awareness, and consequently inadequate knowledge about self-management of an asthma acute event has been identified in many studies as the determinants associated with ER admissions due to asthma major exacerbations in the adult population (Caminati et al., 2021).

Pulmonary rehabilitation has been identified as a key factor in the successful long-term care of patients suffering from asthma (Salandi et al., 2020). Family members and friends should be informed and be involved in caring for patients experiencing asthma exacerbations (Salandi et al., 2020).

Due to the increased risk of acute events and incidents, asthma patients need a care plan. It is imperative to provide education to individuals with chronic diseases on how to manage their condition effectively and their disease under professional guidance which offers different techniques to control their stress, recognize stressful conditions (Loerbroks, Sheikh, et al., 2016). Patients emphasized that such information was important to develop and understand their condition and was particularly crucial during asthma diagnosis (Loerbroks, Sheikh, et al., 2016).

3.3 Person-Centered care

Patients need to be more involved in the development of their management program. Patients living conditions and expertise during diagnosis and treatment planning were found to be important, especially in younger patients aged <45 years (Loerbroks, Leucht, et al., 2016). Patients beliefs about their life circumstances and culture must be considered when the management care plan is developed (Hoskins et al., 2016). Different cultures and backgrounds or health conditions may affect patients goals. Asthmatics may consider themselves mild and well-controlled because they think other health conditions are worse and more severe. Asthma affects all ages but in different ways. Also, older patients perceive their condition as not a problem and that the goal tool (GOAL) might be more relevant to younger people or those with less well-controlled / or severe asthma (Hoskins et al., 2016).

3.4 Socio-economic and demographic differences

Younger asthmatics who have received their diagnosis more recently report higher info, support, and training needs (Loerbroks, Sheikh, et al., 2016). The need for consideration of the patients living conditions, training on how to handle asthma drugs, and treatment planning were more pronounced in younger participants aged <45 years and in those with stress conditions i.e. anxiety/depression, rather than those with a recent asthma diagnosis (Loerbroks, Sheikh, et al., 2016).

Overall, younger age, poor mental health, and a more recently established asthma diagnosis were found to be independently associated with increased needs in education and supporting care, representing a cohort effect (Salandi et al., 2023); (Loerbroks, Sheikh, et al., 2016). Before puberty, asthma is more frequently found in boys than girls, but in adults, asthma is more commonly found in women than men (Rodriguez Bauza and Silveyra, 2021). These sex differences have been attributed to anatomical, physiological, and hormonal factors, as well as occupational and environmental exposures (Rodriguez Bauza and Silveyra, 2021). Furthermore, women were found to express less need for information on asthma drug effects compared to men (58.67% vs 83.33% female $p< 0.001$) (Loerbroks, Sheikh, et al., 2016). Nonetheless, poorer health status is associated with more pronounced information needs in patients QoL with asthma. Also, significant differences in results ($p<0.001$) between low to middle-level education were observed (30.67% vs 14.10%) (Salandi et al., 2020).

3.5 Mental health issues

Mental health problems were identified as risk factors for poor prognosis among asthmatic patients (Pourdowlat, Hejrati and Lookzadeh, 2019). Stress, anxiety, and depression may facilitate as trigger asthma exacerbations and affect patients' QoL (Oni, Erhabor and Oluboyo, 2014). Stress exacerbates the local inflammation and smooth muscle contraction of the airways leading to asthma attacks by up to 20-30% by cytokine release (Pourdowlat, Hejrati and Lookzadeh, 2019).

Papworth method of relaxation is a complex method of behavioral training mostly focusing on more effective breathing and positions to facilitate it (Pourdowlat, Hejrati and Lookzadeh, 2019). The scores of the anxiety questionnaire (STAI) before and after the intervention showed a significant difference, and the mean scores were reduced after the relaxation training among cases from 102.6 to 79.5 ($p<0.01$). The scores of the QoL were improved after relaxation training in the case group from 308.07 to 546.6 ($P < 0.001$).

QUALITY ASSESSMENT OF THE INCLUDED STUDIES

The studies that met the inclusion criteria and were incorporated into the sample of the present study were evaluated for the quality of their methodology using the «Joanna Briggs Institute (JBI) for Semi-Experimental Studies» and the «Joanna Briggs Institute (JBI) for Randomized Controlled Trials». The «Joanna Briggs Institute for Semi-Experimental Studies» tool consists of 9 questions, while the «Joanna Briggs Institute for Randomized Controlled Trials» tool comprises 13 questions. These tools assess, through a series of questions, the extent to which: (a) the results are clearly reported in the article, (b) the sample/sampling is appropriate and described accurately, (c) the tools used by the researchers to measure the variables are appropriate/possess metric characteristics, and (d) the statistical analysis employed is appropriate.

The tools' questions are answered with «Yes,» «No,» «Unclear,» or «Not Applicable.» In this systematic review, studies were included only if they had positive responses to 80% of the questions.

DISCUSSION

This systematic review aimed to examine the needs of asthmatic patients and how they experience their asthma. Few studies have been discussed so far to determine adult patients' asthma needs, increasing the knowledge gap. The systematic review identified five studies that met the predefined inclusion criteria. Limited of the current review has been conducted on the needs of adult asthmatic patients. Findings indicate that asthma control among adults is generally poor. It appears that patients' needs are often unmet or not adequately considered. (Hoskins et al., 2016) (Salandi et al., 2020) (Loerbroks, Sheikh, et al., 2016).

Asthma treatment remains a significant unmet need (Gruffydd-Jones, 2019) and both health professionals and patients recognize the demand for new medication options to address airway inflammation (Gruffydd-Jones, 2019). While inhaled corticosteroids and long-acting beta-agonists are the foundation of asthma management, patient compliance with these treatments remains low (Salandi et al., 2020). Many patients may not realize that the frequent need for a reliever medication is a sign of worsening asthma (Larsson et al., 2020). This misunderstanding could result from inadequate asthma education and a lack of follow-up support. Patients should also understand that instead of relying on relievers, they need to increase their anti-inflammatory controller medication (Larsson et al., 2020). Gaining more skills and knowledge about asthma exacerbations can significantly reduce the need for healthcare services related to medication management (Salandi et al., 2020).

Younger patients have more needs than older patients, which may be explained by younger patients' preferences for shared decision-making and thus possibly represent a cohort effect (Loerbroks, Sheikh, et al., 2016) (Loerbroks, Leucht, et al., 2016). Symptoms of depression and anxiety are primarily linked to the need for acknowledging the patient's expertise, as well as the necessity for information and training that help in managing exacerbations (Pourdowlat, Hejrati and Lookzadeh, 2019). Stress, anxiety, and depression may facilitate and trigger asthma exacerbations and finally, impair the patient's QoL (Oni, Erhabor and Oluboyo, 2014).

Improving communication between the patients and the multidisciplinary team is essential for enhancing the exchange of information (Salandi et al., 2020). Information and education by a multidisciplinary team enhance patients' confidence and autonomy to self-manage themselves and their therapeutic medications (Salandi et al., 2023). Receiving interventions that guide what to do during an asthma attack or offer practical training in breathing techniques is significantly linked to reduced healthcare needs, particularly in the NEAT subscale related to exacerbations (Salandi et al., 2023). Guidelines on pulmonary rehabilitation and research findings highlight the importance of personalized healthcare programs for patients with asthma (Salandi et al., 2020).

Pourdowlat et al., have demonstrated the Papworth technique. A significant reduction in anxiety through effective breathing training, leading to improved QoL (Pourdowlat, Hejrati and Lookzadeh, 2019). It is recommended that psychological teams refer patients to asthma centers within relevant clinics to help individuals receive this training (Pourdowlat, Hejrati and Lookzadeh, 2019). This technique was chiefly based on muscle relaxation and the patient learning how to achieve mental relaxation.

Psychological therapies and support are recommended to affect people's QoL with asthma and their caregivers. They have been strongly advised globally to help patients with asthma to control their disease with different interventions like music therapy, cognitive therapy, and self-management education (Pourdowlat, Hejrati and Lookzadeh, 2019). In stress control, people learn to recognize and control stressful conditions (Pourdowlat, Hejrati and Lookzadeh, 2019). Recognizing cognitive impairment or needs that affect education and adherence to therapy can empower patients and ameliorate their QoL.

All asthmatics should be offered a supportive new style of care (Larsson et al., 2020). Supportive care for asthma patients focuses on helping them manage their condition and live fulfilling lives. They require supportive care to maintain stability while preparing for future exacerbations (Larsson et al., 2020). A supportive self-management care program is crucial and enables individuals to experience a more optimistic outlook on QoL within their needs.

Education is crucial throughout the patient journey. All experts agree that patients should be educated about their condition and treatment options for effective patient-centered care (80% strongly agree, 20% agree) (Rodriguez Bauza and Silveyra, 2021). However, education should be a continuing process of support. Educational or informational needs never end. A continuing process of support should include education and motivation for self-management. Emphasis should be placed on each patient's health needs and desired outcomes. A self-management-supporting care program can focus on patient-centered approaches and improve patients' conditions.

CONCLUSIONS

The current systematic review identifies the needs of patients with asthma. This will contribute to the development of more effective management programs. Patients with asthma are shown to need supportive programs that include education, medication information, information about exacerbations, handling asthma drugs, motivation, and what to do in stressful conditions. Support should also include the recognition and management of anxiety, depression, and impaired QoL throughout the whole trajectory of asthma.

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