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The lived experiences of mother's caring for children with uncontrolled asthma: A qualitative study

Ali Aldirawi[1,2], Tamara Al Rawwad[3], Ahmad R Al-Qudimat[4], Yan Jin[2], Andrea Brooks[5] and Kamal Eldeirawi[6]

Abstract

Introduction: Childhood-onset asthma is a chronic respiratory disease that profoundly impacts patients, their families, and healthcare systems. This study explores the lived experiences, challenges, and perceptions of mothers in managing asthma, controlling symptoms, and maintaining the quality of life for their children with asthma in Palestine.

Methods: A qualitative descriptive design through semi-structured interviews was used in this study. Purposive sampling was used to identify mothers who have children with severe uncontrolled asthma in the four public hospitals with pediatric units in the West Bank, Palestine. Mothers of children with scored below 15 on the asthma control test were included in the study. The data were analyzed using an analytical framework following a thematic analysis through the NVivo 11.

Results: A total of 20 mothers participated in interviews wherein they delineated the most important challenges negatively affecting asthma management from mothers' perspectives. These challenges encompassed frequent emergency room visits, improper medication administration practices, and limitations in physical activity. The mothers expressed concerns regarding asthma control, including anxieties concerning the chronicity of the illness, adverse effects of medications, and susceptibility to weather fluctuations. The main themes that emerged from the data included reduced quality of life for the child, parental responsibility for monitoring triggers, symptoms, and medications, challenges in asthma management, apprehensions regarding asthma control, and strategies for enhancing asthma management.

Conclusion: This study emphasizes the pressing need for targeted interventions to address asthma management, environmental triggers, and psychosocial disruptions related to asthma in children with asthma to enhance the quality of life and asthma control. This study highlights the importance of developing strategies that provide mothers with the appropriate information and tools to navigate the complexities of caring for a child with asthma.

Keywords

Lived experiences, mother's perspectives, asthma management, uncontrolled asthma, children, qualitative study

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Introduction

Asthma is a chronic respiratory disease in childhood that significantly affects patients, their families, and healthcare systems. Asthma impacts approximately 14% of children worldwide.[1] Global asthma prevalence was 11% in children aged 6–7 and 9.1% in those aged 13–14.[2] In Palestine, children living in villages, cities, and refugee camps had prevalence rates of 17.1%, 8.8%, and 9.4%, respectively.[3] Asthma can upset the overall well-being of children, impairing their physiological, psychological, interpersonal, and emotional development.[4] Poorly controlled asthma may result in multiple consequences, including visits to the emergency room and limitations in everyday activities, such as missed school, inability to engage in developmental play, and

[1]Xiangya School of Nursing, Central South University, Changsha, Hunan Province, China
[2]Nursing Department, Third Xiangya Hospital, Central South University, Changsha, Hunan Province, China
[3]Department of Social Work, School of Applied Humanities and Social Sciences, German Jordanian University, Amman, Jordan
[4]Department of Public Health, College of Health Sciences, Qatar University, Doha, Qatar
[5]Nelda C. Stark College of Nursing, Texas Woman's University, Houston, TX, USA
[6]Department of Population, Health Nursing Sciences, College of Nursing, University of Illinois Chicago, Chicago, IL, USA

Corresponding author:
Yan Jin, Nursing Department, Third Xiangya Hospital, Central South University, Building 8, Changsha, Hunan Province 410083, China.
Email: yanjin0163@163.com

limits on participation in extracurricular pursuits. These circumstances can significantly affect children and their families, potentially causing feelings of inadequacy, helplessness, and sadness.[5]

The ability of families to adjust to the condition and overcome challenges in managing asthma can impact the quality of life (QoL) and asthma control of children with asthma.[6] Previous literature conducted in many nations has indicated that mothers may have an inadequate understanding of factors that provoke asthma attacks, poor guidance on providing treatment, and challenges in identifying asthma symptoms.[7,8] The lived experiences of mothers when caring for children with asthma must be thoroughly investigated to provide practical assistance to the children and the caregivers.[9] The latter will help identify the specific care required from medical facilities to enhance this care, identify the resources for service provision, identify the groups at risk of encountering challenges, and assess the need for education and knowledge.[10]

The study of asthma control and QoL among children with asthma in Palestine is crucial for multiple reasons. First, asthma is a chronic respiratory condition that affects many children globally and has severe health complications and QoL impacts. Understanding asthma management challenges in the Palestinian territories is crucial because the sociopolitical and environmental factors can influence respiratory health. In the West Bank, the healthcare system is fragmented, and the accessibility to medications is one of the most important challenges. This is worsened by persistent political and economic instabilities, which contribute to the scarcity of resources and interruptions in medical supplies. Access to specialized treatment needed to improve asthma control is restricted. This is particularly true in distant and rural regions where healthcare institutions may lack sufficient staff and resources. Families often have the responsibility of caring for individuals with asthma, and they may face challenges due to limited financial resources and educational support. In addition, environmental factors, such as air pollution and smoking, can worsen asthma symptoms, making it more challenging to treat the condition.[11]

These problems emphasize the necessity of focused measures to enhance healthcare provision and assistance for asthma patients in Palestine. Currently, there is a lack of research exploring the perspectives, challenges, and lived experiences of mothers caring for children with asthma while striving to improve their families' overall QoL. The primary objective of this study is to describe the lived experiences, challenges, and perceptions of asthma management, asthma control, and QoL for a sample of mothers of children with asthma in Palestine.

Methods

Study design and sample

This study used a qualitative descriptive design to provide rich descriptive data from the subjects' perspective. A qualitative descriptive study is an important and appropriate design for research questions that are focused on gaining insights about a poorly understood research area rather than on a specific phenomenon.[12] A purposive sampling method was utilized to identify mothers of children with severe uncontrolled asthma from four major public hospitals with pediatric units in West Bank, Palestine. The West Bank is divided into 11 regions, from which three were randomly selected. Mothers of children with severe uncontrolled asthma possess distinctive viewpoints and lived experiences that can provide more valuable insights into the barriers and challenges to effective asthma management and control of asthma episodes' symptoms. The sample of mothers and their children were selected from a sample that participated in the previous study. According to a previous cross-sectional study that was conducted in Palestine to evaluate the effect of mothers' knowledge about asthma management on QoL and asthma control among children with asthma in Palestine, 20 mothers of children with asthma were selected out of 182 mothers from four public hospitals. The study found that children with pediatric asthma had poor QoL, and almost all of them had uncontrolled asthma.

The asthma control test (ACT) was used to evaluate the level of asthma control. The ACT levels above 19 suggest that asthma is controlled, whereas scores of 19 or below indicate uncontrolled asthma, and below 15 indicate severe uncontrolled asthma.[13] Children between 5 and 14 years of age diagnosed with asthma and scored <15 on the ACT were eligible for inclusion. Five children with severe uncontrolled asthma, along with their mothers, were selected from each hospital. The hospitals selected included Hebron Governmental Hospital, Beit Jala Governmental Hospital, Yatta Hospital, and Dura Governmental Hospital. This selection was made for the period between March and April 2024.

Initially, no predetermined number of research participants was established, and the objective was to conclude data collection after data saturation was obtained. Data saturation was attained in this study by completing interviews until the participants' comments added no new themes or insights. The study team meticulously observed the data-gathering procedure, consistently examining and evaluating the interview transcripts to detect repeating patterns and themes. Throughout the interviews, the researchers saw a consistent pattern in which the participants regularly described the same concerns, challenges, and lived experiences. Once it was found that further interviews were no longer providing any new information or fresh insights, it was concluded that data saturation had been achieved.

Data collection

Data were obtained using face-to-face, in-depth semi-structured interviews to cover a wide range of issues in detail during the one-on-one discussion. Face-to-face interviews were selected to establish trust and rapport over telephone or online interviews, particularly in a cultural environment that highly values personal connections. This approach allows

for a more intimate and direct engagement between the interviewer and the participants. This approach facilitates a more thorough examination of intricate subjects and empowers the interviewer to perceive non-verbal signals and promptly seek clarification for the given answers. In addition, face-to-face interviews might assist in overcoming any obstacles linked to internet access and technology proficiency, therefore assuring broader and easier involvement in Palestine.[14] In-depth semi-structured interviews are a reliable and appropriate approach for obtaining qualitative data that can be compared across multiple participants, even when various interviewers are involved.[15]

Data collection form

The Family and Child Information Form inquired about the sociodemographic information of children and their mothers. The form also inquired about the duration of asthma, use of asthma control medications, family history of asthma, exposure to a smoker in the home, and number of emergency visits last month.

The interview protocol

The semi-structured interview is one of the most common types of interviews used in qualitative research, especially in the healthcare context. This method provides insight into participant perspective and deep exploration of participants' thoughts and lived experiences.[16] In this study, the approach entailed employing a predetermined set of highlights to direct the discussion while providing unrestrained space for mothers to share their opinions, concerns, and lived experiences about asthma management and control of asthma triggers and symptoms. This study relied on the essential flexibility of semi-structured interviews, which allows the interviewer to go further into specific areas of interest that may emerge during the conversation.[17] This approach uncovers valuable insights that may not have been anticipated in a more rigidly organized style. This method is particularly advantageous for examining intricate matters like asthma control in the Palestinian setting, where individual encounters and difficulties might differ significantly due to varied social, cultural, and environmental elements.[18]

The questions that were used in the interview were adopted on the standardized and validated interview guide from previous studies.[9,19,20] Participants were asked about various aspects of asthma's impact on QoL, comprehension of asthma triggers, impediments to medication adherence and preventive measures, familial support, environmental influences, and the coping mechanisms employed in managing asthma care. The original version of the interview questions was prepared in English. The interview questions were initially prepared in English and were later translated into Arabic for conducting the interviews. The translation procedure involved the first author, a bilingual researcher proficient in both English and Arabic and a native Arabic speaker, who initially translated the text from English to Arabic. A qualified translator then performed a back-translation, following established translation protocols.[21,22] The interview questions were piloted on a group of mothers to evaluate the questions' face validity: relevance, appropriateness, and adequacy for participants and the study.[23]

Data collection procedure

Research assistants with a medical degree and expertise in pediatric medicine and research methodologies conducted the interviews. A training session for the research assistants was conducted to standardize the data collection and interview procedures. On each day designated for an interview at each site, the researcher went to the hospital to identify a mother who met the inclusion criteria. The interviews and thematic analysis were conducted simultaneously[24]; this meant that after conducting an interview, the researcher could verify or get clarification on the issues reported by the participant during the interview the following day. This enabled the researcher to collect quality data from all study sites for corroboration. Each participant was given the study information using an information sheet and asked to consent by signing or putting a thumbprint on a consent form.

To provide privacy and a noise-free environment, the face-to-face, in-depth interviews were conducted in the hospital's conference room. The interviewer used audio recording for all interviews after obtaining the participant's consent. After completing the transcription of the audio recordings into written texts, participants who wished to review the transcripts of their interviews were allowed to do so to ensure the accuracy of their answers.

Data analysis

The data were evaluated using thematic analysis to identify and examine repeating themes present in the dataset. This methodology made it easier to systematically identify and explore common themes, which helped to develop a detailed knowledge of the data obtained from the interviews.[25] All verbatim transcribed data were imported into QSR International's NVivo 11 qualitative data analysis software (2012) to organize and analyze data.[26] The research team adhered to the prescribed six steps for conducting thematic analysis,[25] which include the following:

Data familiarization: Two team members individually examined the 20 semi-structured interview transcripts, approaching the task without preconceived notions and carefully documenting detailed notes for each interview.

Generating codes: The study team gathered to discuss essential elements and recurring patterns in the transcripts. Afterward, each team member independently examined the transcripts, creating their own sets of codes.

The next step was settling these distinct code sets through discussions between the research assistants and a supervisor. The meticulous approach created the canonical collection of codes known as the codebook.

Searching for themes: Once the codebook was created, the research team members systematically classified the codes into broad topics.

Reviewing themes: Traditionally, this step combines different topics and creates a thematic map. Nevertheless, within the framework of this investigation, the recognized patterns were collectively deliberated and assembled, eliminating the necessity for subsequent harmonization. In addition, the data analysis program used in this study, NVivo, can potentially create semantic networks.

Defining and naming themes: After identifying the themes, the two members of the research team responsible for the coding, along with the faculty member acting as an arbitrator, evaluated and appropriately titled the themes.

Producing the report: The final description comprised the encoded, merged, and reconciled codes, along with the codebook and themes.

Ethics and informed consent

Institutional Review Board was obtained before the beginning of data collection with the (Ref No: E202404). Permission to gather data was obtained from the Palestinian Ministry of Health. Before their scheduled visits, nurses contacted the mothers of children with asthma in the waiting room. Every participant was presented with a comprehensive description of the research, and written authorization was issued to each mother. Every mother provided explicit personal agreement through written consent accompanied with the disclosure that they had the option to decline participation, decline to answer any questions and terminate their participation at any time.

Trustworthiness

The study used purposive sampling by selecting mothers of children with severe uncontrolled asthma, making it feasible to collect comprehensive data as the sample consisted of mothers with the necessary life experience. Two research assistants separately performed the coding, and any disparities detected in the coding process were communicated to the supervisor. A consensus was achieved regarding the ultimate implementation of the code to guarantee reliable and uniform results. In addition, the team conducted a comparative analysis and examination of codes at various stages. Any discrepancies noted were discussed within the team, and mutually agreed-upon novel themes and descriptions were integrated. The supervisor maintained a reflective notebook in which they recorded observations made throughout the investigation and significant choices were recorded. Furthermore, after each in-depth interview, the audio recordings were reviewed, and personal emotions, biases, and conclusions were documented in a field record.[27] The interviewees' direct quotations were used.

Results

Twenty mothers were recruited with a mean age of 33.7 ± 2.72 years. Their children with asthma had a mean age of 9.7 ± 2.72 years. The average duration of time with the asthma diagnosis was 17.3 ± 6.9 months (Table 1).

Five themes emerged from the data: (1) reduced QoL for the child, (2) parental responsibility for monitoring triggers, symptoms, and medications, (3) challenges in asthma management, (4) apprehensions regarding asthma control, and (5) strategies for enhancing asthma management. In the following quotations, the mother is denoted as M. The number denotes quotations cited from the 20 different interviews (Table 2).

Theme #1: Reduced QoL for the child

Mothers of children with asthma reported that uncontrolled asthma had a significant negative impact on their children's overall QoL. The latter was evidenced by decreased physical activity, disrupted sleep patterns, and emotional and social disruptions during interactions with family and peers. This highlights the severe impact of uncontrolled asthma on the child's behavior, including persistent distress and unjustified agitation. Additionally, the mothers reported that many pediatric asthma patients develop health complications that hinder their ability to perform daily activities effectively.

> I found that he feels angry and complains constantly for no apparent reason. From here, I confirmed that this is the result of asthma, that he suffers from frequent attacks of wheezing and shortness of breath during this period, and that he wakes me up during the night to tell me that he is uncomfortable and wants to sleep. (M11)

Theme #2: Parental responsibility for monitoring triggers, symptoms, and medications

The mothers of children with asthma reported non-compliance in controlling environmental triggers and recognizing asthma episodes early. Unfortunately, there is a significant issue with children adhering to measures to reduce exposure to environmental triggers such as animal dander, wool, flower pollen, and smoke, which exacerbates the frequency of asthma attacks. Additionally, mothers reported non-compliance with the prescribed treatment regimen. Most participants noted that managing the condition affects their work and family commitments. Two mothers illustrate these challenges:

Table 1. Participant characteristics.

Variables	Frequency (%)
Child age (mean ± SD)	9.7 ± 2.72
Gender	
Male	12 (60%)
Female	8 (40%)
Duration of asthma (*m*)	17.3 ± 6.9
Family size (mean ± SD)	5.3 ± 1.92
Family history of asthma	
No	12 (60%)
Yes	8 (40%)
Parents marital status	
Married	18 (90%)
Divorced	1 (5%)
Widowed	1 (5%)
Highest education level	
Primary	4 (20%)
Secondary	9 (45%)
University	7 (35%)
Employed mother	
No	13 (65%)
Yes	7 (35%)
Family income monthly	
<1000 NIS	3 (15%)
1001–2000 NIS	5 (25%)
2001–3000 NIS	7 (35%)
>3000 NIS	5 (25%)
Smokers in the home	
No	9 (45%)
Yes	11 (55%)
Emergency visit last month	
None	1 (5%)
One time	2 (10%)
Two times	2 (10%)
Three times	6 (30%)
More than three times	9 (45%)
Use of control medication	
No	3 (15%)
Yes	17 (85%)

NIS: new Israeli Shekel.

> I have a large family with 10 members, so I try to give my child who has asthma the most time to monitor his adherence to his medications, but I notice that my child does not adhere well. I try to direct him to stay away from car smoke and the cold weather and to adhere to prophylactic medications, but sometimes he does not adhere well. (M14)

> I am always keen to teach my child, who suffers from asthma, to avoid environmental triggers and to stay away from them as much as possible, and to also commit to taking prophylactic medications well according to the doctor's recommendations. (M17)

Theme #3: Challenges in asthma management

Several mothers described the tremendous impact of managing childhood asthma on their career and personal lives, limiting their ability to meet the needs of their other children. Common challenges included frequent school absenteeism, lack of attention to the needs of their other children, and financial constraints. Some mothers reported that children's emotional well-being may be impacted by fear of asthma episodes, anxiety surrounding medicine usage, and feelings of embarrassment or annoyance caused by asthma symptoms. The following quote from a mother provides a window into her lived experiences and the financial challenges she experienced:

> Adherence to the prescribed therapy is necessary. Without sufficient financial resources, obtaining these medications is extremely difficult. However, if the healthcare clinic provides these medications for free without money, it will help me obtain them and improve my child's health outcomes. (M5)

Theme #4: Apprehensions regarding asthma control

The mothers of children with asthma expressed concerns regarding the chronic nature of the illness and the adverse effects of medications. Mothers also reported some concerns relating to the susceptibility to weather fluctuations, which triggers asthma attacks in their children. Several mothers explained that asthma is a chronic disease and will continue for the rest of their children's lives, which will cause anxiety and instability in the family's life. Almost all the mothers were concerned about effectively handling asthma and ensuring proper medication usage. Mothers were particularly concerned about their lack of ability to identify the symptoms of an asthma attack at night, leading to severe respiratory dyspnea and suffocation while asleep. Below are select statements from the mothers clarifying their concerns:

> I have many concerns regarding the possibility that the illness is a lifelong condition. As someone in the medical field, I am especially concerned about possible consequences, including respiratory failure. (M1)

> Unfortunately, youngsters do not prefer ingesting antibiotics because they taste unpleasant. Five min of walking is all it takes for her to feel exhausted. Every one of these is challenging. (M2)

Theme #5: Strategies for enhancing asthma management

The participants offered recommendations for developing the most effective treatment plan for their child's asthma. The recommendations included implementing preventive measures to alleviate asthma triggers, enhancing awareness and communication with school teachers, maintaining ongoing engagement with healthcare providers, and participating in educational programs focused on asthma management. One mother stated her desire for more information and collaboration between her and medical personnel:

Table 2. Themes, corresponding codes, and example quotes.

Reduced quality of life for the child	Reduced physical activity	"5 min of walking is all it takes for her to feel exhausted. I felt that my child's activities decreased significantly. Every one of these is challenging." (M2) "My child experiences fatigue rapidly after running for a brief duration. She is experiencing distress due to her inability to keep pace with her pals, which has an impact on us. If the duration is prolonged or she perspires excessively, issues such as coughing or wheezing may arise." (M10) "Last year, we experienced a minimum of 3 unscheduled visits to the doctor, as well as 3–4 scheduled visits. During offensive phases, we halt all other activities and prioritize his well-being." (M9)
	Sleep difficulties	"My child wakes me up at night to tell me that he is uncomfortable and wants to sleep." (M11) "I feel that my child suffers from lack of sleep and is sensitive in dealing with his friends." (M3)
	Emotional disturbances	"I found that he feels angry and complains constantly for no apparent reason. From here, I confirmed that this is the result of asthma, that he suffers from frequent attacks of wheezing and shortness of breath during this period." (M11)
	Social disturbances	"Although my child has a social personality and is loved by everyone, after several bouts of shortness of breath during the last 6 months, he began to feel frustrated and unable to keep up with others, and he no longer wanted to go out with his friends outside the house." (M8)
	Behavioral changes	Most of the time, I see him excited and calling out loud. When we leave the house, I find my child feeling uncomfortable." (M3) It is noticeable that my child's psychology has changed dramatically due to asthma, and he has always become agitated." (M8)
Parental responsibility for monitoring triggers, symptoms, and medication	Disruption in parental work commitments	"In addition, I am sometimes busy with housework, and I am not aware of asthma symptoms unless my child comes and tells me about them." (M6) "I feel I am sometimes not paying enough attention to my child, who suffers from asthma, as I work as a teacher and most days, I am busy with my work."(M13)
	Lack of environmental triggers' control	"I try to make my child understand that he should avoid environmental triggers that could cause an asthma attack, such as the smell of smoke, household cleaners, and perfumes. However, I am negligent in following up with my child to ensure he adheres to that." (M13) "I keep my child away from the triggers that cause him to have shortness of breath as much as possible, but I do not fully understand all of these triggers." (M6)
	Lack of compliance with the asthma medications	"I forget to follow up with my child to make sure he is taking the medications as prescribed because I am busy with my work and home demands. I always try to provide enough time for my child." (M13) "I always direct my child to take the treatments correctly. I have a large family with ten members, so I try to give my child who has asthma the most time to monitor his adherence to his medications, but I notice that my child does not adhere well." (M14)
Challenges in asthma management	School challenges	"However, we have notable challenges in the school environment. Occasionally, my child may have an asthma attack while at school or because of aggression from other students." (M10) "The teachers do not care about my child even though they know that he suffers from asthma and may have an attack at any time." (M15)
	Financial constraints	"Without sufficient financial resources, accessing health services becomes exceedingly challenging. Nevertheless, if the medical facility provides this alternative, it could enhance the patient's comfort level." (M5)
	Less attention to siblings	"We are unable to provide care for another child. We cannot focus on the timing of his return from school, his meal preferences, or his activities. His sibling likewise expresses remorse on this matter." (M9)

(Continued)

Table 2. (Continued)

Apprehensions regarding asthma control	Adverse effects of medications	"There have been reports suggesting that Ventolin has the potential to induce abrupt cardiac arrest. I am concerned about this. We discovered that the utilization of inhalation can result in a permanent expansion of the lungs, which is causing me some distress. In addition to these concerns, I am greatly troubled by the potential adverse consequences. Her cough is currently resolved, but whatever lies ahead in the years to come? I am deeply concerned about the excessive amount of medicine she is taking, considering her young age." (M13)
	Susceptibility to weather fluctuations	"I try to direct him to stay away from car smoke and the cold weather and to adhere to prophylactic medications, but sometimes he does not adhere well." (M14) "Regarding the meteorological conditions, I am concerned. Should the weather be unfavorable, I am concerned about its impact on my kid. The bad weather and the pollutants in the air have immediate effects on her. I am very concerned about it." (M6)
	Concerns regarding chronic disease	"We frequently contemplate the hypothetical scenario of the disease's cessation. Given my current pregnancy, is there a likelihood that the second of my kids will get asthma? What will be the impact on our lives? Naturally, we harbor apprehensions and anxieties over the future." (M7)
Strategies for enhancing asthma management	Compliance with precautions to prevent asthma triggers	"I cannot use fragrance due to my child's heightened sensitivity." (M8) "If experiencing a severe cough, individuals should avoid contact with pets and implement preventative measures regarding triggers. Even a 1-h exposure to a pet in the same area might potentially exacerbate the frequency of attacks. Hence, it is crucial to implement preventive actions to counteract the stimuli and allergic reactions." (M16)
	Enhancing awareness and communication with school teachers	"I consistently include Ventolin's nebulizer in his suitcase and conscientiously inform his teachers about his medicine." (M15) "I hold the belief that school teachers need training. The teachers lack the knowledge and understanding to effectively engage with the children and select appropriate sports and activities. They lack the knowledge of appropriate conduct throughout periods of attack. Family members should encourage more frequent and open interactions with the teachers." (M10)
	Participation in the educational asthma programs	"I have never attended any awareness and educational meetings about asthma, so I am not aware of some triggers such as animal dander, smoke, and some foods such as bananas only." (M6)
	Engagement with healthcare providers	"I should persist in therapy and maintain regular communication with medical personnel. They should maintain vigilant supervision of my child." (M8)

> Effective treatment procedures and awareness are crucial factors. I desire more data regarding the specific timing and actions to be taken. I should persist in therapy and maintain regular communication with medical personnel. They should maintain vigilant supervision of my child. I have a strong affinity for scents. (M8)

Discussion

This study described the mothers' lived experiences, challenges, and perceptions regarding asthma management, control, and QoL among their children with asthma in Palestine. Findings from this study indicate that mothers of asthmatic children reported noticeable changes in their children's behaviors and emotional well-being in interactions with family and friends. Each aspect of the children's lives is affected by their disease, from missing school days to little playtime. These findings are similar to those of other studies conducted in other countries documenting the undesirable influence of asthma on children's social relationships and their QoL.[19,28,29]

The impact of asthma on families could contribute to the observable changes in behavior and emotional well-being reported by the mothers. Mothers of children with asthma are navigating a complex web of challenges that affect not only their physical health but also their psychological health and social relationships. Most mothers in Palestine are finding it challenging to properly manage the symptoms of asthma due to environmental issues, such as poor air quality and restricted access to healthcare services because of the blockade.[30] Additionally, mothers suffer greatly from social isolation, financial hardship, and a politically tense environment. Furthermore, the mothers in this study reported non-compliance with using medication correctly and with adhering to treatment plans as a result of a possible lack of awareness of asthma management. Mother's adherence to the treatment plan is associated with decreased severity of an asthma attack.[31] Several studies reported that factors contributing to non-adherence with medications involve forgetfulness, time constraints, mild manifestations of the illness, unsatisfactory therapeutic outcomes, and discomfort associated with medication therapy.[32–34]

The results of this study showed that mothers of children with severe uncontrolled asthma were unable to control various environmental triggers such as animal dander, wool, and flower pollen. The Palestinian community in general suffers from several challenges, including limited access to healthcare services, high poverty rates, and ongoing conflict, all of which make it very challenging for mothers to sufficiently address their children's health needs. Furthermore, the study's findings are congruent with other studies that emphasized the multifaceted nature of asthma management and reported critical factors associated with asthma attacks to be exposures to environmental triggers.[35–37]

The results of this study revealed a substantial negative impact of childhood asthma on mothers, affecting both their professional and personal lives. Mothers struggle not only with the health elements of asthma affecting their children but also with how it affects their families, relationships, and daily lives. This impact includes challenges in caring for their other children and frequent admissions of their asthmatic children to healthcare facilities. Additionally, mothers reported various difficulties related to managing their child's asthma. Some difficulties were using inhalation devices and medications, coping with long-term treatments, and dealing with the recurrent nature of the condition. Additionally, mothers reported difficulties in addressing their asthmatic children's school-related issues, such as restrictions in exercising and their engagement in physical education classes. The challenges may be exacerbated in Palestine by limited access to healthcare services, economic hardships, and continuous political instability. Inequities in healthcare access, medication cost, and asthma education availability all contribute to discrepancies in asthma outcomes among children.

These findings are consistent with another study reflecting the complexities and stress associated with asthma management within the family unit.[38] Recognizing these challenges and obstacles is critical for medical professionals in Palestine who want to assist mothers impacted by childhood asthma. The current study highlights a significant issue in healthcare: communication challenges between mothers and healthcare providers, particularly in the context of managing chronic conditions like asthma in children. This issue is not isolated; similar challenges have been observed in other studies involving mothers of children with asthma and their interactions with medical teams.[39,40]

These findings indicate the importance of enhancing communication skills for the medical team by training them in effective communication strategies that consider the emotional and informational needs of mothers. The findings also indicate the importance of emphasizing family-centered care, which can help bridge communication gaps. The healthcare team should involve mothers in the decision-making process, respecting their knowledge of their child's condition and considering their concerns. Additionally, healthcare team members with different roles should work closely with each other to ensure consistent messaging and support for the family. This could involve regular team meetings to discuss patient care plans and communication strategies. We cannot forget the importance of the crucial role that nurses and other healthcare team members play in educating mothers about asthma management. Providing clear, accessible information about the child's condition, treatment options, and what to expect can help reduce misunderstandings and anxiety. This can be done by leveraging technology, like patient portals or mobile apps, which can enhance communication by providing mothers with easy access to information, the ability to ask questions, and tracking their child's health status.

Furthermore, the findings of this study highlight the concerns mothers have regarding their children's asthma, emphasizing issues such as the long-term impact of the

disease, the potential for exacerbations and complications, worries about medication side effects, and the need to plan for future management. These concerns are crucial as they reflect the challenges mothers face in managing chronic conditions in children, and they highlight the importance of addressing these issues in clinical practice. Mothers often worry about how a chronic condition like asthma will affect their child's QoL over time. This includes concerns about how the disease may limit physical activities, academic performance, and social interactions.

Similar concerns were highlighted in a study by Klok et al.,[41] which showed that mothers are particularly anxious about exacerbations, which often leads to heightened stress and challenges in managing the condition effectively. Furthermore, mothers are often apprehensive about the potential side effects of asthma medications, such as steroids. Mothers may fear that these drugs could cause long-term harm or undesirable side effects, leading to reluctance to adhere to prescribed treatments. Mothers are also concerned about various factors that could trigger or worsen their child's asthma, such as environmental allergens, respiratory infections, and stress. This concern drives the need for comprehensive information on how to manage these factors effectively. Another study noted that mothers worry about how these factors might exacerbate asthma symptoms and impact daily life activities, underscoring the need for effective management strategies. Planning for the long-term management of asthma is a critical concern for mothers. They need guidance on how to manage their child's condition as they grow, including adjustments in treatment and monitoring for potential complications. Cabana et al.[42,43] highlighted the need for ongoing education and support from healthcare providers to help mothers develop and implement effective management plans.

The findings of this study indicate that mothers suggest various strategies to alleviate the emotional challenges faced by children with asthma and their mothers. These strategies include taking precautions to avoid asthma triggers, adhering to prescribed medications and treatment plans, seeking mental health support, and collaborating and maintaining open communication with healthcare providers. The strategies recommended by mothers in this study highlight the multifaceted approach required to manage the emotional and physical aspects of pediatric asthma. The emphasis on preventing exposure to triggers is a critical aspect of asthma management.

Other studies have similarly found that mothers prioritize identifying and avoiding asthma triggers to prevent exacerbations, which in turn helps to mitigate the emotional stress associated with managing the disease. Ensuring consistent adherence to prescribed medications is another key recommendation from mothers. Another study highlights that maternal concerns about medication side effects must be addressed to improve adherence, which is fundamental for effective asthma control and reducing anxiety for both mothers and children. The suggestion to seek mental health assistance underscores the recognition that asthma management extends beyond physical symptoms.[41] Studies like those by McQuaid et al.[44] emphasize the psychological toll asthma can take on both children and their mothers, supporting the need for integrated mental health services. Additionally, the importance of maintaining open lines of communication and collaboration with healthcare providers is well-documented. Cabana et al.[43] found that effective communication between mothers and healthcare providers significantly improves asthma outcomes and reduces maternal anxiety, reinforcing the value of this approach.[41,43–45]

Strengths and limitations of the study

It is important to acknowledge the strengths and limitations of the study. The study's strengths include the high response rate of the participants (100%). Another strength is that our study focuses on different geographic areas in the West Bank of Palestine, allowing us to capture unique perspectives. Limitations include the use of purposive sampling, which specifically targets mothers of children with severe uncontrolled asthma in particular public hospitals in Palestine. This approach may limit the generalizability of the findings to a broader population. The reliance on self-reported data obtained through semi-structured interviews may create response bias, as participants may offer socially desired answers. However, self-reports have been widely used to capture perceptions and patient experiences in similar studies.

Conclusions

Ultimately, this study illuminates the complex challenges encountered by mothers caring for children with asthma, exposing the impact of the disease on the overall well-being of the affected children and their mothers. The themes identified highlight the complexity and diversity of these issues, from reduced QoL and maternal need to monitor triggers and medicine to challenges in managing care, worries about the chronicity of the disease, and coping strategies. The results of this study highlight the need for comprehensive educational programs and guidance from healthcare professionals to improve mothers' knowledge of asthma care and to enhance the mental, emotional, and social well-being of children with asthma. Effective strategies should equip mothers with the necessary information and tools to manage their child's condition beyond just medical interventions.

Focused interventions in healthcare clinics and schools, including community-based educational initiatives, are crucial for improving understanding of asthma management and triggers. Additionally, ensuring affordable access to medications is especially important for families in rural areas with limited financial resources. Healthcare providers should prioritize clear and effective communication with mothers to

enhance their understanding of asthma management, ultimately improving health outcomes and QoL for the children.

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Author contributions

Ali Aldirawi conceptualized the research project, helped in conducting data analysis, and spearheaded the article's writing. Tamara Al Rawwad contributed significantly to the development of the first draft of the manuscript, the discussion, and the subsequent revisions of the manuscript. Ahmad R Al-Qudimat contributed significantly to the data analysis and interpretation of the findings. Yan Jin supervised the research project. Andrea Brooks participated in the reviewing process, offered valuable input on the draft, and modified the manuscript elements. Kamal Eldeirawi critically reviewed the manuscript, provided input and feedback on all aspects of the manuscript, and made significant revisions to the manuscript.

Declaration of conflicting interests

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Ethics approval

Institutional Review Board was obtained before the beginning of interviews with the (Ref No: E202404). Permission to gather data was obtained from the Palestinian Ministry of Health.

Informed consent

Before their scheduled visits, nurses contacted the mothers of children with asthma in the waiting room. Every participant was presented with a comprehensive description of the research, and written authorization was issued to each mother. Every mother provided explicit personal agreement through written consent accompanied with the disclosure that they had the option to decline participation, decline to answer any questions and terminate their participation at any time.

Trial registration

Not applicable.

ORCID iDs

Ali Aldirawi https://orcid.org/0000-0002-8347-1793

Yan Jin https://orcid.org/0000-0002-7668-4803

Kamal Eldeirawi https://orcid.org/0000-0001-8669-3802

Supplemental material

Supplemental material for this article is available online.

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