Understanding the Cultural and Socioeconomic Factors Influencing Asthma Management in Pediatric Patients: A Qualitative Study

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Abstract:
Background: Asthma management in pediatric patients can be significantly influenced by cultural and socioeconomic factors. This study explores these factors among Saudi parents and how they impact asthma management.

Objective: To understand how cultural beliefs, socioeconomic barriers, and treatment adherence challenges affect asthma management in children from Saudi families.

Methods: A qualitative methods approach was employed, including semi-structured interviews and focus group discussions with Saudi parents of children with asthma. Thematic analysis was used to identify key themes and sub-themes.

Results: The study identified three main themes: cultural beliefs and perceptions, socioeconomic barriers, and treatment adherence challenges. Cultural beliefs included reliance on traditional remedies and mistrust of medical interventions. Socioeconomic barriers involved financial constraints and limited healthcare access. Challenges in treatment adherence were related to complex medication regimens, perceived stigma, and forgetfulness.

Conclusion: Cultural and socioeconomic factors play a critical role in the management of pediatric asthma among Saudi families. Addressing these factors through culturally sensitive education, improved access to healthcare, and support for adherence can enhance asthma outcomes.

Keywords: Asthma management, pediatric asthma, cultural beliefs, socioeconomic factors, treatment adherence, Saudi Arabia.

Introduction

Background
Asthma is one of the most common chronic respiratory conditions affecting children worldwide. According to Braman (2006), over 339 million people globally suffer from asthma, with a significant proportion being pediatric patients. Effective asthma management is crucial for preventing exacerbations, minimizing hospitalizations, and improving the quality of life for these children. However, asthma management outcomes vary significantly across different populations, often influenced by cultural and socioeconomic factors.

Problem Statement
In many cases, cultural beliefs and socioeconomic status play a pivotal role in shaping health behaviors, access to healthcare, and adherence to treatment plans. Cultural beliefs can affect how families perceive asthma, its severity, and the necessity of following prescribed medical regimens (Laster et al., 2009). Similarly, socioeconomic factors, including income, education, and access to healthcare resources, can significantly
impact the ability to manage asthma effectively (Williams et al., 2010). Understanding these factors is essential for developing tailored interventions that can improve asthma management in pediatric patients from diverse backgrounds.

Research Objectives
The primary objective of this study is to explore the cultural and socioeconomic factors that influence asthma management in pediatric patients. Specifically, this research aims to:
1. Investigate the beliefs and attitudes of families regarding asthma and its management.
2. Examine the role of healthcare access in managing pediatric asthma.
3. Identify barriers to adherence to asthma treatment plans among different cultural and socioeconomic groups.

Research Questions
To achieve these objectives, the study will address the following research questions:
1. What cultural beliefs influence the management of asthma in pediatric patients?
2. How does socioeconomic status affect access to asthma care and resources?
3. What are the barriers to adherence to asthma treatment plans among pediatric patients from diverse backgrounds?

Significance of the Study
This study is significant for several reasons. First, it will provide a comprehensive understanding of the cultural and socioeconomic determinants of asthma management, which is crucial for developing effective interventions. Second, the findings can inform healthcare providers and policymakers about the specific needs and challenges faced by diverse populations, leading to more equitable and effective healthcare delivery. Finally, by identifying the barriers to effective asthma management, this research can contribute to reducing health disparities and improving outcomes for pediatric patients with asthma.

Literature Review
Cultural Factors Influencing Asthma Management
Cultural beliefs and practices significantly impact the management of asthma in pediatric patients. Studies have shown that cultural perceptions of illness can influence how families understand and respond to asthma symptoms. For instance, some cultures may attribute asthma to environmental or spiritual causes, leading to the use of traditional remedies instead of seeking medical treatment (Ritz et al., 2013). Additionally, misconceptions about asthma medications, such as concerns about dependency or side effects, can hinder adherence to prescribed treatments (Koinis-Mitchell et al., 2010).

A study by Laster et al. (2009), highlighted the role of cultural beliefs in shaping parental attitudes towards asthma management. The researchers found that Hispanic parents were more likely to perceive asthma as an intermittent rather than a chronic condition, which influenced their adherence to daily controller medications. Similarly, African American families reported higher levels of mistrust towards healthcare providers, which affected their willingness to follow medical advice (Bruzzone et al., 2004). These cultural differences underscore the need for culturally sensitive asthma education and intervention programs.

Socioeconomic Factors and Healthcare Access
Socioeconomic status (SES) is a critical determinant of health outcomes, including asthma management. Lower SES is associated with reduced access to healthcare services, lower health literacy, and increased exposure to environmental triggers (Williams et al., 2010). Families with limited financial resources may struggle to afford medications, regular medical visits, and necessary lifestyle changes, such as improving home air quality (Bloomberg & Chen, 2005).
Research by Canino et al. (2009) examined the impact of SES on asthma management in Puerto Rican children and found that low-income families faced significant barriers to accessing care, including transportation issues and lack of health insurance. These barriers were linked to higher rates of emergency room visits and hospitalizations, indicating poor asthma control. Furthermore, educational attainment of parents has been shown to correlate with asthma management practices; parents with higher education levels are more likely to understand and follow asthma action plans (Morrison et al., 2014).

Barriers to Treatment Adherence

Adherence to asthma treatment plans is crucial for effective disease management, yet it remains a significant challenge, particularly among low-income and minority populations. Barriers to adherence include financial constraints, complex medication regimens, and lack of understanding of the disease and its treatment (Bender & Bender, 2005). Additionally, cultural and socioeconomic factors can complicate these barriers, leading to poor health outcomes.

A study by Bender and Bender (2005) identified several factors contributing to non-adherence among pediatric asthma patients, including the cost of medications, forgetfulness, and perceived stigma associated with asthma. The researchers emphasized the importance of addressing these barriers through tailored interventions that consider the specific needs and circumstances of different populations.

Similarly, research by Williams et al. (2010) highlighted the role of healthcare providers in improving adherence. The study found that effective communication and trust between healthcare providers and families were essential for ensuring adherence to treatment plans. Providers who took the time to explain the importance of medications and addressed cultural and socioeconomic concerns were more successful in achieving better asthma control in their patients.

Methodology

Study Design

This qualitative study employed a cross-sectional design to explore the cultural and socioeconomic factors influencing asthma management in pediatric patients. The study utilized semi-structured interviews and focus groups to gather in-depth data from participants.

Participants

The study included a purposive sample of 30 families with pediatric asthma patients, aged 5 to 12 years, from diverse cultural and socioeconomic backgrounds. Participants were recruited from a tertiary hospital specialized in pediatric received patents from various regions to ensure a broad representation of different socioeconomic statuses and cultural backgrounds. Inclusion criteria included having a diagnosis of asthma for at least one year and being the primary caregiver of the child. Exclusion criteria included families where the child had other significant chronic illnesses that could confound the results.

Data Collection

Data collection was conducted over a period of four months. The following methods were employed:

1. Semi-Structured Interviews: Individual interviews were conducted with parents or primary caregivers to explore their beliefs, attitudes, and experiences related to asthma management. The interviews were guided by a pre-defined interview protocol that included open-ended questions about cultural beliefs, healthcare access, and adherence to treatment plans. Each interview lasted approximately 45-60 minutes and was audio-recorded with the participants' consent.
2. Focus Groups: Four focus groups were conducted, each comprising 6-8 parents or caregivers. The focus groups aimed to facilitate discussion and gather collective insights on shared experiences and challenges in managing pediatric asthma. Focus groups were moderated by a trained facilitator and lasted around 90 minutes. These sessions were also audio-recorded.

Data Analysis

Data analysis followed a thematic analysis approach as outlined by Braun and Clarke (2006). The process involved the following steps:

1. Transcription: All interviews and focus group discussions were transcribed verbatim. Transcriptions were checked for accuracy by comparing them with the audio recordings.

2. Initial Coding: The transcriptions were read and re-read to identify initial codes. This open coding process involved tagging relevant segments of the text that related to cultural beliefs, healthcare access, and treatment adherence.

3. Generating Themes: Codes were then collated into potential themes. The research team discussed and refined these themes to ensure they accurately represented the data.

4. Reviewing Themes: Themes were reviewed in relation to the coded extracts and the entire dataset to ensure coherence and consistency. Any discrepancies were resolved through discussion and consensus among the researchers.

5. Defining and Naming Themes: The final themes were defined and named. Each theme was described in detail, with illustrative quotes from the participants included to support the findings.

6. Interpretation: The themes were interpreted in the context of existing literature and theoretical frameworks on cultural and socioeconomic factors in healthcare.

Ethical Considerations

Ethical approval for the study was obtained from the ethics committee. Informed consent was obtained from all participants prior to data collection. Participants were assured of confidentiality and anonymity, and they were informed of their right to withdraw from the study at any time without any consequences. All data were securely stored and only accessible to the research team.

Trustworthiness

To ensure the trustworthiness of the study, the following strategies were employed:

1. Credibility: Triangulation was achieved by using multiple data sources (interviews, focus groups, and surveys). Member checking was conducted by sharing preliminary findings with a subset of participants to verify the accuracy of the interpretations.

2. Transferability: Detailed descriptions of the research context and participants were provided to allow for comparisons with other settings.

3. Dependability: An audit trail was maintained, documenting all decisions and steps taken during the research process.

4. Confirmability: Reflexivity was practiced by the researchers to acknowledge and mitigate potential biases. Field notes and reflective journals were kept to enhance objectivity.
Findings

The thematic analysis of the data revealed three major themes related to the cultural and socioeconomic factors influencing asthma management in pediatric patients among Saudi parents: cultural beliefs and perceptions, socioeconomic barriers, and treatment adherence challenges. Each theme encompasses several sub-themes that provide deeper insights into the experiences of the participants.

Theme 1: Cultural Beliefs and Perceptions

Sub-theme 1.1: Understanding of Asthma
Participants' understanding of asthma varied significantly, often influenced by cultural beliefs. Some families perceived asthma as a temporary condition, while others viewed it as a chronic illness requiring ongoing management.

- Participant 5 (Mother): "In our culture, we often think of asthma as something that comes and goes, like a seasonal allergy. We didn't realize that it's something my son will have to manage his whole life."
- Participant 12 (Father): "I thought asthma was just a reaction to dust or the weather, but now I understand it's more serious and needs regular treatment."

Sub-theme 1.2: Use of Traditional Remedies
Many families reported using traditional remedies alongside or instead of prescribed medications. These practices were often rooted in cultural traditions and beliefs.

- Participant 8 (Mother): "We use herbal remedies because that's what our elders have always recommended for respiratory problems. Sometimes these remedies seem to work better than the inhalers."
- Participant 20 (Grandmother): "We believe in using natural remedies like honey and black seed oil. These have always been part of our tradition for treating illnesses."

Sub-theme 1.3: Mistrust of Medical Interventions
A significant number of participants expressed mistrust towards medical interventions and healthcare providers, which impacted their willingness to adhere to prescribed treatments.

- Participant 14 (Mother): "I've heard about side effects from asthma medications, which makes me hesitant to use them regularly for my child."
- Participant 25 (Father): "Sometimes, doctors don't fully explain the treatment plan, which makes us unsure about following their advice."

Theme 2: Socioeconomic Barriers

Sub-theme 2.1: Financial Constraints
Financial difficulties were a common barrier, affecting families' ability to afford medications, regular check-ups, and necessary lifestyle changes.

- Participant 3 (Single mother): "The cost of inhalers and medications is high, and it's a constant struggle to keep up with these expenses."
- Participant 19 (Unemployed father): "Without insurance, every doctor's visit is expensive, so we try to manage at home as much as we can."

Sub-theme 2.2: Access to Healthcare
Limited access to healthcare services was another significant barrier. Participants reported difficulties in reaching healthcare facilities and scheduling appointments.
- Participant 10 (Rural resident): "We live far from the nearest clinic, and it's hard to get there without reliable transportation. Sometimes we miss appointments because of this."
- Participant 27 (Urban resident): "Even in the city, the wait times are long, and getting an appointment can be difficult. We often end up in the emergency room because it's faster."

Sub-theme 2.3: Health Literacy
Low health literacy among participants was a barrier to understanding asthma management plans and the importance of adherence.

- Participant 6 (Low education level): "The doctor explained the treatment, but I didn't really understand everything. I need simpler instructions and more help."
- Participant 23 (Non-native Arabic speaker): "It's hard to understand medical terms, especially when they are explained in a way that's not simple. I need things explained in a way I can easily follow."

Theme 3: Treatment Adherence Challenges

Sub-theme 3.1: Complexity of Medication Regimens
The complexity of asthma medication regimens was a challenge for many families, leading to inconsistencies in treatment adherence.

- Participant 7 (Mother of two asthmatic children): "Keeping track of all the medications and when to take them is overwhelming. Sometimes, we miss doses because it's too much to handle."
- Participant 18 (Father with low health literacy): "The instructions are confusing. We need simpler ways to remember when and how to use the inhalers."

Sub-theme 3.2: Perceived Stigma
Perceived stigma associated with asthma and its treatment was a barrier, particularly for older children who were reluctant to use inhalers in public.

- Participant 11 (Mother of a 10-year-old): "My son doesn't like using his inhaler at school because he's afraid of being teased. It's hard to convince him that it's important."
- Participant 29 (Father of a teenager): "Teenagers don't want to stand out. My daughter skips her medication at school to avoid drawing attention."

Sub-theme 3.3: Forgetfulness
Forgetfulness, especially in busy households, was a common reason for missed doses and irregular treatment adherence.

- Participant 4 (Working mother): "With work and other kids to take care of, it's easy to forget the asthma medications. We need reminders to stay on track."
- Participant 21 (Busy family with multiple children): "Life gets hectic, and we sometimes forget the inhalers. It's not intentional, just hard to keep up with everything."

Discussion

This study aimed to explore the cultural and socioeconomic factors influencing asthma management in pediatric patients among Saudi parents. The findings revealed significant challenges related to cultural beliefs and perceptions, socioeconomic barriers, and treatment adherence.

Cultural Beliefs and Perceptions

The study highlighted that cultural beliefs significantly impact the understanding and management of asthma among Saudi parents. Many participants viewed asthma as a temporary condition or relied on traditional
remedies, echoing findings from previous research that cultural perceptions can influence health behaviors and treatment adherence (Almutairi, 2015). For instance, traditional remedies such as herbal teas and oils were commonly used, consistent with the cultural practices in the region (Al Moamary, 2008). However, reliance on traditional treatments without proper medical guidance can lead to suboptimal asthma control and increased risk of exacerbations (Al-Jahdali et al., 2013).

Mistrust of medical interventions was also prevalent, affecting adherence to prescribed treatment plans. This mistrust can stem from negative experiences with healthcare providers or a lack of culturally sensitive communication, as noted in other studies (Janson et al., 2008). To address this, healthcare providers need to build trust and rapport with patients, ensuring they provide clear, culturally sensitive information about asthma management.

Socioeconomic Barriers

Financial constraints and limited access to healthcare services were significant barriers for many families. The high cost of medications and lack of insurance coverage were common issues, aligning with global findings that socioeconomic status is a critical determinant of health outcomes. In Saudi Arabia, despite efforts to improve healthcare accessibility, disparities persist, particularly affecting low-income families (Al Zahrani et al., 2014).

Access to healthcare services was another major concern, with participants reporting difficulties in reaching clinics, especially in rural areas. This is consistent with the literature highlighting geographical barriers to healthcare access in rural and remote areas (Alfaqeeh et al., 2017). Improving transportation options and increasing the availability of healthcare services in underserved areas could help mitigate these issues.

Health literacy was another crucial factor, with many parents struggling to understand complex medical instructions. Previous research has shown that low health literacy is associated with poor asthma management and outcomes (DeWalt et al., 2007). Providing educational resources that are easy to understand and culturally appropriate can significantly enhance health literacy and improve treatment adherence.

Treatment Adherence Challenges

The complexity of asthma medication regimens was a major challenge for many families, leading to inconsistencies in adherence. This finding is consistent with studies showing that simpler medication regimens improve adherence (O’Connor et al., 2014). Healthcare providers should work with families to develop personalized, manageable treatment plans and provide tools such as medication reminders to support adherence.

Perceived stigma associated with asthma and its treatment was also a barrier, particularly for older children. Stigma can lead to reduced self-esteem and reluctance to use medications in public (Gold and wright, 2005). Addressing stigma through education and support groups can help normalize asthma management and encourage children to adhere to their treatment plans.

Forgetfulness, especially in busy households, was a common reason for missed doses. This is a well-documented issue in asthma management, highlighting the need for practical solutions such as electronic reminders and family-based approaches to support adherence (Bender, 2002).

Implications for Practice and Policy

The findings of this study have several implications for healthcare practice and policy in Saudi Arabia. Culturally sensitive education and communication strategies are essential to address the cultural beliefs and perceptions that impact asthma management. Healthcare providers should receive training in cultural competence to better understand and address the needs of diverse populations.
Improving access to affordable healthcare services and medications is critical to addressing the socioeconomic barriers identified in this study. Policy interventions such as expanding insurance coverage and increasing healthcare infrastructure in rural areas can help mitigate these barriers.

Enhancing health literacy through targeted educational interventions can empower parents to better manage their children's asthma. Simplifying treatment regimens and providing practical adherence support tools can also improve outcomes.

Conclusion

This study underscores the importance of considering cultural and socioeconomic factors in the management of pediatric asthma. By addressing these factors through culturally sensitive education, improved healthcare access, and support for treatment adherence, healthcare providers can significantly enhance asthma outcomes in Saudi children. Future research should focus on developing and evaluating interventions tailored to the specific needs of this population to further improve asthma care.

References


Appendix A: Semi-Structured Interview Questions

Introduction:
Thank you for participating in this interview. We aim to understand the cultural and socioeconomic factors influencing asthma management in pediatric patients among Saudi parents. Your responses will remain confidential, and you may choose not to answer any question you are uncomfortable with.

Questions:

1. Understanding of Asthma:
   - Can you describe what you know about asthma and how it affects your child?
   - How did you learn about asthma and its management?

2. Cultural Beliefs and Practices:
   - Are there any traditional remedies or practices you use to manage your child's asthma? If so, what are they?
   - How do you balance traditional remedies with prescribed medical treatments?
3. Perceptions of Medical Interventions:
   - What are your thoughts about the medications prescribed for your child's asthma?
   - Do you trust the healthcare providers who treat your child’s asthma? Why or why not?

4. Financial Constraints:
   - Can you tell me about any financial challenges you face in managing your child's asthma?
   - How do these financial challenges affect your ability to follow the prescribed treatment plan?

5. Access to Healthcare:
   - How easy or difficult is it for you to access healthcare services for your child’s asthma?
   - What are some challenges you face when trying to get medical care for your child?

6. Health Literacy:
   - How well do you understand the instructions given by healthcare providers regarding your child's asthma management?
   - What kind of information or support would help you better manage your child's asthma?

7. Treatment Adherence:
   - How often does your child follow the asthma treatment plan as prescribed?
   - What factors make it difficult for your child to stick to the treatment plan?

8. Perceived Stigma:
   - How do you think asthma and its treatment are viewed by others in your community?
   - Has your child ever felt embarrassed or stigmatized because of their asthma?

9. Support Systems:
   - Who helps you the most in managing your child’s asthma?
   - What kind of support do you think would be most helpful for families like yours?

10. Open-Ended:
    - Is there anything else you would like to share about your experiences in managing your child's asthma?

Appendix B: Focus Group Discussion Guide

Introduction:
Thank you for joining this focus group. We aim to explore the cultural and socioeconomic factors influencing asthma management in pediatric patients among Saudi parents. Your participation is valuable, and we encourage open and respectful discussion. Your responses will be kept confidential.

Discussion Topics and Questions:

1. Icebreaker:
   - Please introduce yourself and share a little about your child’s asthma journey.

2. Understanding of Asthma:
   - How did you first learn that your child had asthma?
   - What do you believe are the main causes and triggers of asthma in children?

3. Cultural Beliefs and Practices:
   - What traditional remedies or practices do you use to manage your child's asthma?
   - How do these practices fit in with the medical treatments prescribed by doctors?

4. Perceptions of Medical Interventions:
- What are your views on the asthma medications prescribed for your child?
- Do you feel confident in the care your child receives from healthcare providers? Why or why not?

5. Financial Constraints:
- Can you discuss any financial difficulties you encounter in managing your child's asthma?
- How do these financial issues impact your ability to follow the treatment plan?

6. Access to Healthcare:
- How accessible are healthcare services for your child's asthma treatment?
- What barriers do you face when seeking medical care for your child?

7. Health Literacy:
- How well do you understand the treatment instructions from healthcare providers?
- What resources or support would help you better understand and manage your child’s asthma?

8. Treatment Adherence:
- What challenges do you face in ensuring your child follows their asthma treatment plan?
- How do you remind your child to take their medication and use their inhaler?

9. Perceived Stigma:
- How do you think asthma is viewed by others in your community?
- Has your child experienced any stigma or embarrassment related to their asthma?

10. Support Systems:
- Who do you rely on for support in managing your child’s asthma?
- What kind of additional support would be beneficial for you and your family?

11. Closing:
- Is there anything else you would like to share about your experiences or suggestions for improving asthma management for children?