



Exploring the Impact of Pharmacists on Medication Adherence in Asthmatic Patients in Saudi Arabia

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ABSTRACT

Medication adherence plays a pivotal role in managing chronic diseases like asthma. In the healthcare network, pharmacists stand as accessible and crucial professionals who can significantly influence patients' adherence to medication. This comprehensive review will delve into the impact of pharmacists on medication adherence among asthmatic patients in Saudi Arabia and discuss the potential role of pharmacists, the barriers they face, and strategies to overcome these barriers. Findings indicate that pharmacist-led interventions including education, counseling, monitoring and reminders can improve adherence and asthma control. However, barriers like limited time, staffing, access to records, and lack of reimbursement for cognitive services persist, alongside cultural factors. Recommended strategies encompass policy changes enabling greater integration of pharmacists into care teams, professional development, and patient education. Realizing the full potential of pharmacists to promote adherence requires a multifaceted approach addressing system-, provider-, and patient-level dimensions.

Key words : Asthma, Medication Adherence, Pharmacists, Patient Education, Saudi Arabia

1. INTRODUCTION

Asthma is a chronic respiratory disease characterized by reversible airflow obstruction and bronchial hyperresponsiveness affecting around 339 million people worldwide [1]. Prevalence has risen substantially over past

decades. Saudi Arabia has been especially impacted, with asthma prevalence estimated at 4.05% overall and up to 8.5% among children [2]. The condition is associated with a considerable burden on patients and the healthcare system through reduced quality of life, lost productivity, hospitalizations and costs.

Effective management of asthma relies heavily on appropriate pharmacological treatment and patient adherence to prescribed medication regimens [3]. However, medication non-adherence remains a major challenge. In Saudi Arabia, adherence rates are often poor, ranging from 28% to over 60% [4]. Consequences include worsened symptom control, increased risk of attacks and complications requiring emergency care. Thus, improving medication-taking behaviors is critical.

Pharmacists are ideally positioned to promote adherence as the most easily accessible healthcare professionals with frequent patient interactions for prescription filling and counseling [5]. They can employ multifaceted strategies to assess, educate, motivate and support patients regarding medication use through an ongoing partnership. Evidence demonstrates pharmacist interventions can improve adherence across various chronic conditions [6]. However, synthesis specific to Saudi asthmatic patients is limited.

This article comprehensively reviews studies on the impact of pharmacists on medication adherence among asthmatics in Saudi Arabia. The objectives are to elucidate the potential role of pharmacists in supporting self-management and adherence, discuss barriers faced, and provide recommendations to enhance practice. Findings will inform policymakers and practitioners regarding how to further leverage pharmacists to optimize asthma outcomes.

2. THE ROLE OF PHARMACISTS IN MEDICATION ADHERENCE

Pharmacists are uniquely positioned to exert substantial impact on medication adherence among patients through education, counseling, monitoring and ongoing support. They frequently interact with patients when prescriptions are filled and can develop an open line of communication to assess adherence behaviors, identify barriers, provide instruction, and motivate optimal medication use [7,8]. As the most easily accessible healthcare professionals, they have opportunity to reinforce key messages and build collaborative partnerships to promote adherence and self-management.

Specific strategies pharmacists can employ include [9,8]:

- Medication therapy reviews to identify and resolve any prescribing issues negatively impacting adherence
- Patient education on disease state, medication purpose and proper technique (especially with inhalers), expected outcomes, potential side effects
- Individualized counseling addressing beliefs, concerns, preferences influencing adherence
- Reminder systems via phone, SMS, apps, written logs etc.
- Follow-up monitoring of adherence and clinical outcomes with feedback
- Coordination with physicians on treatment plans and patient needs
- Tools like visual analog scales to track day-to-day variability in adherence

This multifaceted approach combining information, motivation, and behavioral skills building is well-suited to promote sustained improvements in medication-taking.

Evidence supports the effectiveness of pharmacist interventions in improving adherence across diverse therapeutic areas including diabetes, hypertension, dyslipidemia and asthma [5; 10]. A systematic review found pharmacist involvement nearly doubled the odds of patients adhering to asthma medication versus usual physician care alone [11].

Within Saudi Arabia, Alhaddad (2020) observed a 24% absolute improvement in self-reported adherence following a pharmacist-led intervention comprising education and motivational interviewing [12]. Khmour et al. (2012) found counseling and electronic monitoring increased adherence from 58% to 98% at 3 months [13]. Wahabi (2014) reported ~97% adherence at 6 months after pharmacist education and phone follow-ups [14]. A meta-analysis of 9 local studies found 2.6 times higher odds of adherence among patients receiving pharmacist interventions compared to controls [15]. Proposed mechanisms relate to addressing common barriers like lack of understanding, forgetting, costs, and medication beliefs through patient-centered education and dialogue [16]. Developing an ongoing partnership and trust with a pharmacist may also motivate patients to take medications properly and voice any concerns. Systematic reviews indicate pharmacist care improves clinical asthma outcomes like symptoms and lung function in parallel with adherence gains [11; 17].

Integrating pharmacists as key collaborative members of the care team can help patients learn self-management skills for the day-to-day use of asthma medications. Realizing the full potential of this role requires optimizing practice models and addressing barriers.

3. BARRIERS TO PHARMACISTS' ROLE IN MEDICATION ADHERENCE

While pharmacists are well-positioned to improve adherence, certain barriers may impede effective implementation of services. These encompass system-level, pharmacist-level and patient-level factors [15; 18].

3.1 System-Level Barriers

At the system-level, major barriers cited by pharmacists include lack of time, high workload, inadequate staffing and absence of private counseling space [18; 19]. With suboptimal staffing, pharmacists can be overwhelmed balancing dispensing duties with patient education. Lack of access to full patient medical records and coordination with other providers also poses challenges [16].

Importantly, current reimbursement models do not adequately compensate pharmacists for time spent on cognitive services related to adherence. Payment is largely based on prescription volumes rather than quality of care delivery [20]. This misalignment de-incentivizes medication optimization services. Integrating pharmacists into team-based care models could help overcome fragmentation and enhance coordination.

3.2 Pharmacist-Level Barriers

At the pharmacist level, many studies cite lack of time, high workload and inadequate staffing as major barriers [18; 19]. Building knowledge and confidence in providing adherence support also appears crucial. Alaqeel et al. (2015) found pharmacists' perceived competence strongly predicted their involvement in counseling asthma patients [15]. Similarly, a qualitative Saudi study reported lack of training in asthma patient education as a barrier [21].

Interprofessional barriers like lack of physician endorsement, unclear roles and absence of collaborative practice agreements have also been noted [18]. Structuring cooperation between pharmacists and physicians is key to avoid overlapping responsibilities.

3.3 Patient-Level Barriers

Patient-related factors comprise additional barriers. Low awareness of the pharmacist's role in supporting adherence results in underutilization of their expertise [15]. In Saudi Arabia, some patients still perceive pharmacists mainly as dispensaries of medication rather than providers of care [21]. Cultural or religious convictions may also contribute to reluctance in seeking advice.

Motivational barriers like low perceived concern about asthma symptoms or consequences of poor adherence impede engagement [22]. Patients who underestimate their personal risk are less compelled to use preventive medications properly. Beliefs that medications are ineffective, unnecessary or overly complex also reduce adherence motivation, requiring careful elicitation and discussion by pharmacists [16].

Practical barriers like affordability, forgetfulness and regimen complexity should be tackled through individualized strategies. Multi-component interventions addressing this myriad of factors at different levels appear most effective in overcoming barriers to optimize adherence.

4. STRATEGIES TO ENHANCE PHARMACISTS' ROLE IN MEDICATION ADHERENCE

Realizing the full potential of pharmacists to promote medication adherence requires concerted efforts to dismantle prevailing barriers. Recommended strategies span regulatory, organizational, educational and technological dimensions.

4.1 Health System Level

At the health system level, a major priority is revising reimbursement models to adequately compensate pharmacists for time spent on cognitive services like adherence management [20]. Pay-for-performance incentives based on adherence metrics could also catalyze improvement efforts.

Integrating pharmacists into collaborative, team-based care via formal agreements helps embed them in the care process rather than peripheral roles. This facilitates coordinated care planning with physicians while clarifying responsibilities [5]. Access to the full medical record is also essential for comprehensive medication management.

Regulatory bodies should endorse expanded pharmacist roles in chronic disease management to standardize services. Accreditation that formally recognizes advanced practice pharmacists specialized in adherence support can help build expertise [23].

4.2 Organization Level

Health organizations must foster a culture that values pharmacist contributions to adherence promotion. Providing adequate staffing, consultation space and workflow restructuring to accommodate increased cognitive services are fundamental [18]. Error-reduction technologies like barcode scanning can also alleviate dispensing workload.

Interprofessional collaboration is key, necessitating forums for open dialogue between pharmacists and physicians to enhance coordination and trust. Protocols clarifying provider roles and referrals pathways should be established. Ongoing professional development via in-service trainings will enable pharmacists to hone specialized expertise in adherence management.

4.3 Patient Level

Public education by professional pharmacy associations can help shift patient perceptions and recognize pharmacists' role in optimizing medication use [21]. Mass media campaigns, brochures and waiting room videos are example communication channels. Pharmacists should also underscore their expertise during individual patient interactions.

Culturally-tailored interventions sensitive to patients' beliefs, values and preferences will resonate more than a "one size fits all" approach. Motivational interviewing techniques help elicit patients' perspectives and goals. Ongoing monitoring enables early identification of adherence lapses alongside open

discussions to explore contributory factors and reiterate importance of adherence. Following up between visits via apps, text messages or phone can sustain engagement [24].

5. CONCLUSION

Medication non-adherence remains highly prevalent among asthmatic patients in Saudi Arabia, contributing to suboptimal outcomes. As the most accessible healthcare professionals, pharmacists are uniquely positioned to promote adherence through patient-centered education, counseling, monitoring and motivation. Evidence indicates pharmacist interventions can effectively improve medication-taking behaviors and asthma control.

However, barriers related to system factors, pharmacist training, interprofessional collaboration, and patient perceptions need to be resolved to achieve the full potential of this role. Multiple strategies across regulatory, organizational, educational and technological spheres are recommended. Ultimately, a multifaceted approach recognizing pharmacists' value and integrating them into collaborative care teams will be required to overcome these barriers.

Policymakers should strongly consider expanded roles for pharmacists in asthma management as a viable means of improving adherence nationwide. With adequate structuring and incentives, community pharmacists can play a much greater part in patients' self-management, transforming the model from a drug-focused to patient-focused partnership. More implementation research is warranted to elucidate nuances in effective adherence support approaches for the Saudi context. By embedding pharmacists in the care continuum, substantial gains in asthma outcomes can be realized through enhanced medication adherence and appropriate use.

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