



Evaluation of the Quality and Frequency of Counseling Provided for Asthma Patients in Community Pharmacies in Hail, KSA

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Abstract

Background: Asthma affects more than 2 million Saudis with the recent studies suggesting that the majority of those asthmatic patients have uncontrolled asthma with their quality of life being adversely impacted (19). When asthmatic patients get involved in the management of their disease they would achieve good health outcomes. So, it is fundamental to counsel asthmatic patients in community pharmacy to maximise the chances of better patient involvement and asthma control.

Objective: The objective of this study is to evaluate the quality and frequency of counseling provided in community by the community pharmacist when dispensing different asthma inhaler devices.

Methodology: A cross-sectional study via direct community pharmacist interviewing regarding their practice counselling and advising asthmatic patient in community pharmacy. A study was conducted in Hail region over 2 months (February and March) in 2023. A total of 100 community pharmacies were in this study, the total of pharmacies in Hail governorate is 250-300. The asthmatic drugs the study was on (Long-Acting Beta Agonist Turbuhaler Symbicort, Inhaled corticosteroid Discus Seretide and Bronchodilator Metered Dose Inhaler Ventolin). The data were entered and processed using version 23 of the statistical package for social sciences (SPSS).

Results: Despite 93% of participating" mention the total number of the participants in the study stated that they provide counseling for asthmatic patients upon dispensing different asthma medications, None of them covered properly the main areas of counseling which are the use of medactions (holding technique, shaking the bottle before using the drug, set the correct dosage and rotate the bottom or the tab of the bottle until hearing the "click" sound etc...). Seven percent did not provide counseling because of workflow and time constrain. Twenty percent offer counseling "sometime", 58% provide it "usually", while 15% "rarely". Only 3 types of advices were offered, (a) avoid triggering factors, (b) avoid pain killers, and (c) the way of proper inhaler device technique. Although the pharmacists stated that they counsel asthmatic patient on the correct way of handling the asthma inhalers, 50% (14/28) of the pharmacists interviewed on the metered dose inhaler did not know the correct technique of metered dose inhalers, 58% and 60% didn't know the proper technique of diskus and turbuhaler respectively. Twenty-two percent of the pharmacists perceived that teaching asthmatic patients the correct inhalation technique is the responsibility of physician who prescribes the device and not the community pharmacists.

Conclusion and Recommendations: This survey revealed that asthmatic patients did not receive adequate counseling regarding the technique, asthma control, asthma action plan, rescue and maintenance therapy. Continuous pharmacist educational program is recommended to tackle the gap and activate the pharmacist role for optimizing asthma care.

Keywords: Counselling Asthmatic Patient; Community Pharmacists; Hail; KSA

Introduction

Asthma is a chronic inflammatory disease of the airways, symptoms of asthma are associated with poor quality of life and significant morbidity and mortality [1]. It is one of the commonly seen chronic illnesses affecting many throughout the world [2]. The prevalence of asthma is increasing and its social and economic impact, as well [3]. Although new asthma medications and therapeutic guidelines have been established over the past years, no major change has been observed in asthma-related morbidity and mortality [4].

In many regions around the world, asthmatic patients do not have timely access to medical care or basic asthma medications, a situation that shoulders community pharmacist great responsibility to provide an effective counseling to achieve asthma control, hence, improve quality of life of asthmatic patients [5].

Asthma counseling is an essential component of asthma care; however, counseling is not consistently offered to patients. As the pharmacists encounter asthma patients regularly in community pharmacy and repeatedly many times in between physician visits, they are in superior position to ensure optimal management of asthma through counseling and educational intervention.

To counsel asthmatic patients, pharmacists must have the basic knowledge and skills required to deliver such services. The following are critical nine components of patient counseling derived from evidence-based guidelines and previously published research [6,7]. These points need to be tailored and discussed with asthmatic patients on dispensing of different asthma medications.

- Understanding asthma in terms of the role of inflammation in pathogenesis, episodic nature, health beliefs, and common misconceptions.
- Understanding the difference between long-term control medications and quick-relief therapy with respect to indication, safety, benefits, and consequences when not taking the prescribed asthma medications.
- Step-by-step demonstration of the correct usage of inhaler devices technique.
- Asking the patient to repeat the demonstration along with periodic reassessment and training.

- When and how to use add-on asthma devices such as spacers, valved holding chamber, and nebulizer.
- Identification, and avoidance, of patient-specific environmental exposure which exacerbate the symptoms (e.g. allergens, tobacco smoke, irritants)
- Assessment of asthma to identify patients with poorly controlled asthma, clarify the reasons and provide appropriate recommendations.
- Discuss self-monitoring by using individualized asthma action plan, know how and when to take daily action to adjust the medications in response to signs of worsening asthma.
- Evolution of adherence to pharmacologic and non-pharmacologic measures.

If optimal drug therapy of asthma is prescribed, treatment may still fail or be suboptimal if the pharmacists do not adequately address previous points.

Inadequate asthma control is not commonly due to a lack of effectiveness of asthma medications but is more often associated with suboptimal use of inhalatory therapy aggravating factors such as, Comorbidities and poor environmental control, and non-adherence to prescribed therapy [8].

The usefulness of inhaled asthma medications depend not only on the appropriate drug, or the preferred type of inhaler used, but also on the skills and ability of asthma patients to perform the inhalation technique correctly [9]. These findings emphasize the critical role of community pharmacists in the provision of patients' education and training. Several studies have shown that community pharmacists can effectively provide training on the correct usage technique inhalation devices [10,11].

Effective counseling and monitoring of asthma patients delivered by pharmacist has been shown to enhance compliance with prescribed medications, decrease hospitalizations, reduce the number of visits to emergency department, and promote correct inhalation technique [12-15].

Previous studies which have evaluated the counseling activities in community pharmacy concluded that pharmacists do not always provide comprehensive patient counseling [16-18]. On

the other hand, few studies have qualitatively explored the nature of education and counseling provided to asthmatic patients in community pharmacy setting.

Asthma affects more than 2 million Saudis with the recent studies suggesting that the majority of those asthmatic patients have uncontrolled asthma with their quality of life being adversely impacted [19].

Aim of the Study

The aim of this study was to evaluate the nature and extent of counseling and asthma-related information which the community pharmacist would discuss with asthma patients at the time of dispensing of different asthma medications.

Materials and Methods

A cross-sectional study of community pharmacists was conducted over 2 months between January 2023 and February 2023. The researchers approached a convenient sample of 100 community pharmacies in Hail region. Direct interviewing with the participants is the way of collecting responses. Demographic data were obtained (gender, pharmacy location, year of graduation, duration of experience in community pharmacy, and frequency of dispensing asthma medications). The researchers reported the answer for the following questions in the box below.

Do you provide specific advice(s) for asthma patients when dispensing different asthma medications?
If the answer to question (1) is Yes, participants would answer questions 2 and 3. How often do you provide it?
What are the differences would you use to discuss with asthma patient?
If the answer to question (1) is No, participants were asked to offer the reasons
Who do you think is responsible for teaching patient the correct use of different asthma devices?
Do you feel satisfied with your knowledge about proper technique of metered dose inhaler?
Do you feel satisfied with your knowledge about proper technique of diskus?
Do you feel satisfied with your knowledge about proper technique of turbuhaler?

Table a

At the end of reporting different responses, the researchers provided a placebo device of metered dose inhaler, turbuhaler, and diskus, requesting participating pharmacist to demonstrate the correct technique for each device, respectively. All steps reported in a guided checklist for each device.

The study was approved by ethical committee of University of Hail. All participating pharmacists were requested to give verbal consent.

Statistical analysis

Data were analyzed using SPSS version 23. Frequency tables are displayed with counts and percentages.

Results

Demographic and background information are summarized in table 1 with a 100% response rate.

Items		No. of Pharmacists (%)
Gender	Male	92 (92%)
	Female	8 (8%)
Years in practice	1-5 years	34 (34%)
	6-9 years	33 (33%)
	10-20 years	28 (28%)
	More than 20 years	5 (5%)
Frequency of dispensing different asthma medications	1-3/day	31 (31.0%)
	4-6/day	25 (25%)
	7-10/day	17 (17%)
	More than 10/day	5 (5%)
	1-6/week	22 (22%)

Table 1: Characteristic of Participating Pharmacists (n = 100).

Out of 100 pharmacists 93% reported that they did offer advice on dispensing asthma medications. Among those who provide counseling, 58% usually provide it, while the remaining portion rarely and sometime offer it (if the patients asked or seems not knowing the medication). Among advice provider, 31% used to discuss only triggering factors, while 44% cover the technique, 18% advises asthmatic patients to avoid pain killers and some medications.

Seven percent of the participants admitted not providing counselling upon dispensing asthma inhalers medications. They stated that high number of customers and time constrain are the main reasons preventing such provision. Some participants (22%) perceive that teaching asthma patient the correct technique is the physician’s responsibility.

Regarding the proper technique of handheld asthma devices, 46% of participants did not know how to use spacer device correctly. Regarding metered dose inhaler, 50% did not master the technique. While more than half (58% and 60%) failed to demonstrate the proper technique of the diskus and turbuhaler, respectively. Level of participating pharmacist’s self-satisfaction with their knowledge of proper asthma device technique are depicted below (Table 2).

Asthma device	Satisfied	Not satisfied	I do not know
Proper technique of metered dose inhaler	92%	3%	5%
Proper technique of diskus	90%	3%	7%
Proper technique of turbuhaler	87%	6%	7%

Table 2

Discussion

The present finding shows that a higher percent of community pharmacists did provide some sort of advice on dispensing different asthma medications. Regarding the type and quality of counseling provided, the quality of advice is quite poor as it only covered a few domains out of nine essential counseling areas. However,

other advice areas were neglected, for example, compliance with medicine taking, importance and differences between reliver and controller, role of anti-inflammatory asthma medications in controlling and decreasing frequency of asthma attack, whether the patient has been prescribed a controller, the proper asthma device technique.

There is a mismatch between the reported self-satisfaction of knowledge about the correct technique and the practical demonstration of it. Such discordance emphasizes the importance of checking the technique with placebo device. The same is applicable to asthma patients who would state that they understand the proper inhalation technique. In consistent with other finding, half of the participants are unaware of the proper asthma devices’ technique, like metered dose inhaler, turbuhaler, and diskus.

Almost half of the participants infrequently provide counseling. This result is consistent with other studies [20,21] which revealed that rate of counseling asthma patients in community pharmacy is low and inadequately addresses essential recommendations. A previous study reported that 93% of surveyed asthma patients stated having received advice on Turbuhaler use, and 75% identified their regular medical practitioner as the source of this advice, with only 8% of patients nominating pharmacist [22]. Other study found that the majority of asthma patients (> 90%) reported that their community pharmacist did not or sometimes discuss with them the management of their disease, and more than half of asthma patients were relatively satisfied with the quality and quantity of asthma counseling provided in community pharmacy [23]. Another study revealed that fewer patients were counseled by the pharmacist about effective and safe use of asthma medications [24]. Previous survey concluded that pharmacists tend not to intervene with the majority of asthma sufferers [25]. Other studies indicated that asthma counseling is given infrequently in community pharmacy, and fewer pharmacists reported counseling pediatric asthma patients or their parents [26,27]. One study found that community pharmacist appeared to provide counseling frequently when the first prescription for asthma medication was filled, and around 98% of pharmacists stated providing verbal information often or always on new asthma medication prescriptions [28].

The present finding shows that no pharmacists would make sure when dispense asthma devices whether asthma patients know the correct technique or not. In a telephone survey with asthma patients using Turbuhaler, only 33% of patients reported that pharmacist had discussed the steps associated with Turbuhaler use during dispensing, 3% of patients reported that a pharmacist had checked their technique after the time of first dispensing [29]. Another study concluded that Pharmacists frequently educate patients and assess metered dose inhaler technique for new prescriptions but not very often for patients recently started or long-term users [30]. Mickle, *et al.* reported only 13% of community pharmacists, without first being asked, educate asthma patient the correct inhalation technique of metered dose inhalers [25]. One study found that few pharmacists demonstrate to asthmatic children or their caregiver the correct technique or asked them to use the device to observe their method [23].

One study reported that 48% of the pharmacists had checked the patient's inhaler technique in the previous month, and 21% did not check it within the previous year [22]. Another study found that only 8.4% of community pharmacists reassess always or often inhaler device technique [24]. We assume that lack of community pharmacists' knowledge of appropriate inhalation techniques is the main reason why they did not check the patients' performance or provide such counseling. Abuzar, *et al.* concluded that the majority of surveyed Sudanese community pharmacists either did not know the correct technique or poorly handle different asthma inhaler devices, some pharmacists were totally unfamiliar with Turbuhaler, Diskus, and valved spacer [26].

The present survey reveals that a higher percentage of community pharmacists who self-reported provision of counseling, provide general and non-individualized information.

While poor inhaler technique of asthma patients remains common and is associated with poor disease control [28]. The present finding shows that substantially lower proportion of community pharmacists counsel asthma patients on the correct inhalation technique. A previous study has shown that 58% of community pharmacists gave their advice about the correct technique of dispensed metered dose inhaler to a mystery shopper, and none of them used show and tell technique [29]. Interestingly, several studies have concluded that few pharmacists know how to use correctly respiratory inhalers [6,15,27,30].

Conclusion and Recommendation

Designation of continuing educational program would improve pharmacists' knowledge and ability to help patients understand their disease, medications, inhalation technique and self management plan.

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