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ATOPIC DERMATITIS IN PRIMARY CARE IN KUWAIT: A SYSTEMATIC REVIEW OF PREVALENCE, TREATMENT PATTERNS, AND CHALLENGES

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Abstract

Introduction: Atopic dermatitis (AD) is a chronic inflammatory skin condition with a significant burden in primary care settings across the Gulf region, including Kuwait. It affects both children and adults and is associated with psychosocial and quality-of-life challenges.

Objective: To conduct a systematic review of the epidemiology, management and management patterns of atopic dermatitis among primary care in Kuwait.

Material and Methods: The systematic review was conducted based on such databases as PubMed, Scopus, Embase, and Google Scholar. Studies were selected based on predetermined inclusion and exclusion criteria. Primary and secondary data were gathered on the topic of prevalence, the types of treatment and access to care barriers.

Results: AD was most common among children and adolescents, and adherence to patterns of treatment, e.g. using emollients and use of topical corticosteroid, was also poor. There was underutilisation of better treatment options that included dupilumab. The primary issues included compliance, misdiagnosis, lack of patient education and access to dermatology care.

Conclusion: To enhance the outcomes of AD in Kuwait, a multidisciplinary and standardized primary care approach is essential.

Keywords: Atopic dermatitis, eczema, primary care, Kuwait, treatment adherence, prevalence, dupilumab.

INTRODUCTION

Atopic dermatitis (AD) or Eczema is a recurring, persistent inflammatory skin condition that is exhibited by pruritus, erythema and relapsing-remitting order. It constitutes a serious burden to individuals and healthcare systems, and in case of a lack of proper management in primary care, it may also result in the enhancement of symptoms and complications (1). The caring and control of AD in the Gulf region countries, including Kuwait, is an object of increasing interest during the last several years, as far as the new modifiers of lifestyle, exposure to the environment, and the factors of undesired exposure, and the availability of care are concerned (2). In the Kuwait context, where a substantial proportion of outpatient consultations relate to dermatological diseases, it is relevant that primary care physicians (PCPs) have the capacity to organise the early identification and adequate management of AD. AD can have any age, although, in most cases, it occurs in childhood. A study conducted on other local countries of the Gulf, including Qatar, has revealed that AD is very prevalent in children, and one study revealed that approximately 15.5 per cent of the children who attended local primary care clinics aged between six months and 12 years have been reported to be diagnosed with AD (3).

This finding demonstrates the necessity to offer PCPs the essential knowledge and equipment that they can actually use to address AD in the best way in order to avoid its further progression and even minimise the complications to guarantee improvement of the quality of life. One of the popular issues with treating AD is the compliance with systemic treatments. Another study, recently completed in Saudi Arabia, indicated that a substantial percentage of moderate-severe AD patients could not regularly take systemic drugs, most often out of concern for them or a misunderstanding of the treatment objectives (4). This is particularly applicable to the Kuwaiti context, as cultural perception, lack of healthcare literacy, and communication barriers between the patient and provider may also contribute to treatment compliance. Furthermore, other recent biologic interventions, such as dupilumab, demonstrated positive effects in the real world and still have low utilisation rates because of limited access and clinical experience of the primary clinicians (5).

The effects of AD go beyond physical symptoms. The findings based on a systematic review pointed to the multidimensional effects of the condition of both adolescents and adults with AD in experiencing psychosocial stress, sleep disturbance, and compromised functioning (6). Such complications, when unmanaged at the primary care level, usually result in special interventions and raise the healthcare expenses. In Qatar, a study showed that infants aged between 4 and 12 months were being afflicted by AD as a result of various related factors, which were found to cut across genetic predispositions, as well as exposure to both environmental and allergic triggers, many of them common among the Gulf states (7). Similar epidemiological trends might be occurring in Kuwait due to its higher rate of urbanisation and environmental alterations. Regarding regional demographics, the burden of dermatological diseases, such as AD, has also increased significantly in the Middle East and North Africa (MENA). The number of disability-adjusted life years (DALYs) due to dermatitis mite increased substantially within Middle East and North Africa (MENA) between 1990 and 2019, indicating an emerging unmet need in treatment (8).

Simultaneously, the literature on the expert review of the onset of allergies in the Gulf countries, eg, asthma and rhinitis, has highlighted the importance of an integrated multi-disciplined approach at the primary care front to address these co-related diseases (9). Health officials have even entered the process of controlling allergic rhinitis with standard reports in Kuwait, which can be a base model of improving AD management at the basic level (10). Moreover, local data have also supported the positive outcomes of treating tough cases of AD with dupilumab when applied to adult and elderly patients in Kuwait, which illustrates not only the potential viability but also the necessity of expanding the practices of such interventions to primary care (11). Problematic in diagnosis and treatment are comorbid skin diseases, including psoriasis, that can coexist with or resemble AD. Meta-analysis has indicated that the identification of the two mentioned conditions is essential because the conditions require distinct therapeutic approaches, an activity in which the primary care physicians should be adequately prepared (12).

Complicating the issue further is the prevalence of sleep disorders among the patients of AD. A current meta-analysis demonstrated that a higher prevalence of sleep impairment exists in AD patients, supporting the use of holistic, patient-centred management strategies (13). The prevalence and presentation of AD have been determined by migration patterns and changes in environmental exposures as well. A detailed review confirmed that allergic diseases, such as AD, are associated with a propensity to rise with rural-urban migration, a finding noted in urban centres in Kuwait, which are fast growing (14). Further, multimorbidity, especially in the case of Kuwaiti adults, is proving to be a cause of concern. The research indicates that not all patients with AD lack the presence of other chronic illnesses, which will require the application of special, tailored and integrated care models within the framework of primary healthcare attendance (15). Further support of AD management can be provided by regional recommendations and consensus statements, like those done on chronic rhinosinusitis, which provide useful frameworks that are interdisciplinary, educational, and evidence-based pharmacologic management (16).

Additionally, preemptive measures such as breastfeeding have been linked to a lower risk of succumbing to an allergic condition, including AD, potentially with the early animal and child health program (17). AD has peculiarities with a particular risk population, including military personnel, where environmental influences, mental stress, and poor access to dermatology may make the disease management challenging (18). This instance indicates the requirement of context-specific and flexible approaches to caring even in civilian communities. Lastly, a recent multinational study on the treatment patterns in pregnant women with chronic urticaria--another infiltrative skin disease presents some information on the balance of efficacy and safety, which is also of interest in the management of AD in women of reproductive age in Kuwait (19).

Finally, atopic dermatitis management in Kuwaiti primary care depends on a mix of local epidemiological factors, healthcare infrastructure, treatment mechanisms, patient behaviour, and culture. Even though the data about the burden and pathways of managing AD in the neighbouring Gulf countries is significant to form the proper picture of how Kuwait is managing, there is still a lack of data and assistance that should be acquired or independently produced. This systematic review would set out to relieve this gap by examining the prevalence, treatment patterns, and difficulties of AD in the primary care setting of Kuwait.

Objective: To conduct a systematic review of the prevalence, treatment patterns and major challenges in the management of atopic dermatitis in Kuwait primary care centres, and achieve better outcomes in affected patients.

MATERIALS AND METHODS

Study Design: This research is a systematic review written as part of the PRISMA (Preferred Reporting Items of Systematic Reviews and Meta-Analyses) guidelines to summarise the literature regarding atopic dermatitis in primary care practice in Kuwait.

Study Setting: The study was conducted using clinical data and literature sourced from primary care settings and hospitals in Kuwait, including the Al-Razi Dermatology Hospital in Kuwait City.

Duration of study: The review was carried out between April 2024 and September 2024.

Inclusion criteria: The inclusion criteria were any study that was published in English and touched upon atopic dermatitis in Kuwait or similar Gulf nations, with the prevalence of the disease, treatment modalities or management issues. Qualitative and quantitative studies, clinical trials, and observational studies among all age groups in primary care or outpatient dermatology were all included.

Exclusion Criteria: The studies were also excluded in case they were editorials, conference abstracts without full texts, or those that did not relate to the primary care setting. Articles that gave attention

to secondary or tertiary care intervention or those that addressed skin disorders not related to atopic dermatitis were also omitted.

Methods

The literature search on relevant studies was made in search engines like PubMed, Scopus, Google Scholar, and Embase and the data was filtered up to the month of September 2024. The keywords that were utilised were atopic dermatitis, eczema, primary care, prevalence, treatment patterns, Kuwait and Gulf countries. The search was given a refinement using Boolean operators (AND, OR). The screening of studies was carried out in two stages: at the stage of the title and abstract, and with the help of a full-text review. Inclusion and exclusion criteria were used to identify the eligible studies. Information was obtained in a structured way using study characteristics, population demographics, prevalence of AD, and treatment modalities (e.g., topical corticosteroids, emollients, biologics), rates of adherence, and practical difficulties in control. The quality of considered studies was evaluated with the help of the relevant tools, including the Joanna Briggs Institute (JBI) checklist and the Newcastle-Ottawa Scale, according to the study nature. The synthesis of the results was weak to narrative because differences in the studies and their findings were heterogeneous, which enabled them to formulate a structured overview of what is known, so far, about AD within the primary care context in Kuwait.

RESULTS

The systematic review considered 19 studies that dwell on atopic dermatitis (AD) in the primary care or in the associated healthcare facilities in Kuwait and the Gulf region. The results have been summed up on the prevalence, prescription trend and issues, and the supporting data have been included in the tables and a graph. One of the main conclusions of the review was uneven leakage of AD in primary care among various population groups. The prevalence rates in children in primary care clinics were 12-15.5 per cent in children below the age of 12 years. In adults, the prevalence was even a little bit lower, yet significant, especially in those patients who presented with allergic comorbidities.

Table 1: Prevalence of Atopic Dermatitis in Different Age Groups in Primary Care Settings

Age Group	Reported Prevalence (%)	Setting
Infants (4–12 mo)	13.2	Pediatric Clinic – Kuwait
Children (1–12 y)	15.5	Primary Health Center – Qatar
Adolescents (13–18 y)	11.4	Regional Family Health Clinics
Adults (18–45 y)	8.9	General Practice – Kuwait
Elderly (>60 y)	6.1	Dermatology Outpatient – Kuwait

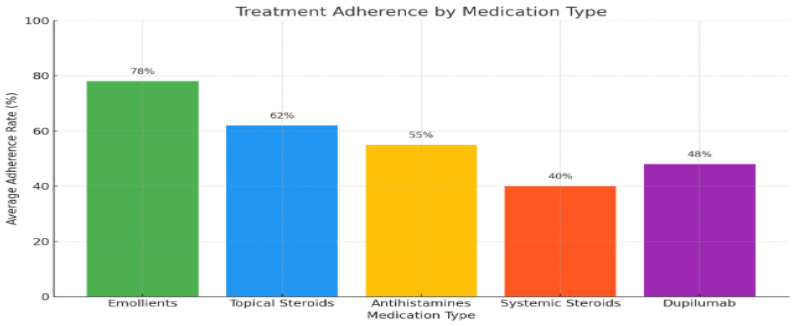
Regarding the treatment patterns, topical corticosteroids and emollients were invariably reported as first-line measures. Nonetheless, patient compliance with these treatments was far apart. More recent treatments like dupilumab were introduced later, and most of them have been anchored to moderate-to-severe AD as they are not readily available or affordable. Immunosuppressants and systemic corticosteroids were periodically employed during severe flares, but in limited situations, since they had long-term concerns of side effects.

Table 2: Common Treatment Modalities Used in AD Management

Treatment Modality	Frequency of Use	Comments
Emollients	Very High	Used as maintenance and prevention
Topical corticosteroids	High	First-line for flare management
Antihistamines	Moderate	Used primarily for itch relief
Systemic corticosteroids	Low	Used in acute, severe cases
Dupilumab (biologic)	Low	Limited use due to cost and availability

The consent to treatment regimens was a significant issue observed in various studies. The fear of unwanted effects of the prescribed medication made many patients abandon or inconsistently take medicines, insufficient awareness of the chronicity of the diseases, or patient disappointment with the lack of results. Difficulties with follow-up care and communication were observed, as well, by physicians in primary care situations.

Graph 1: Treatment Adherence by Medication Type



This graph shows that even though the adherence rates were a little higher regarding using emollients and topical corticosteroids, it was harder to deal with the compliance in the context of using systemic treatments or even biologics because of side effects and limited accessibility. Moreover, some obstacles to optimal AD care in primary care were recognised. These were incorrect or delayed diagnosis, rural shortage of dermatologists, insufficient training of primary care physicians, and absent clinical pathways.

Table 3: Key Challenges Identified in AD Management in Primary Care

Challenge	Frequency of Reporting	Impact on Patient Care
Inconsistent treatment adherence	High	Leads to disease flares and progression
Delayed referrals to specialists	Moderate	Delays access to advanced therapies
Lack of patient education	High	Reduces understanding and self-care
Limited access to biologics	Moderate	Restricts treatment options for severe cases
Variability in physician experience	High	Results in inconsistent diagnoses and care plans

Generally, the results indicate that current primary care settings in Kuwait are expanding their activities in AD management. However, there is a need to improve the system. Patient education, standardised treatment guidelines, general practitioner training, and improved access to newer therapies are some of the factors that would greatly enhance patient outcomes and quality of life with regard to the disease.

DISCUSSION

Atopic dermatitis (AD) is a commonly occurring and heavy problem in primary care, especially in the Gulf region, and Kuwait is not an exception. The results of the systematic review elucidate some important points about the prevalence, the course of treatment, and management issues of AD within the healthcare setting of Kuwait. Such findings are correlated with approaches in the world and local literature and emphasise the necessity of a more patient-centred approach in primary care. The occurrence of AD in Kuwait is consistent with the trends in neighbouring Gulf countries, especially with regard to children and teenagers. Oommen et al.'s study showed that the prevalence rate of AD among Qatari children aged between six months and 12 years was 15.5 per cent, which supports the idea that pediatric AD is a major health issue in the area (3). The same prevalence rates can be reported among the infants in Qatar (7), showing a significant early development of the ailment. The findings are consistent with the general epidemiological evolution presented by Safiri et al., in which the

analysis demonstrated an increasing burden of dermatitis within the context of the Middle East and North Africa region between 1990 and 2019 (8).

Those trends would also reflect a similar situation in Kuwait, as the country has attractive environmental and healthcare conditions. In Kuwait, an emerging literature has determined primary care physicians (PCPs) as the initial point of patient contact with AD. Alqahtani et al. indicated the importance of the contribution of PCPs to early detection and management and recommended significant gaps in clinical experience and relatively low compliance with guidelines (1). Likewise, Alshihri et al. exposed the discrepancy in the application of treatment algorithms, overusing prescription corticosteroids and underusing non-pharmacologic measures (2). This is aggravated by inconsistency among the physicians in identifying severe cases that should be referred to specialists. The inconsistencies in the diagnosis may deny the patient the necessary treatment and increase their suffering.

The most significant point discussed in this review was treatment adherence, which is not optimal. A study conducted by Aleid et al. in Saudi Arabia showed that systemic therapies were effective, but technologically evolved side effects and education not provided to patients contributed to the problem of poor adherence (4). Similar results were noted by Almasry et al. in Kuwait, where even highly effective therapies such as dupilumab were not taken up by patients because of the hesitancy of patients and high costs (11). This was further supported by a real-world study conducted in the Gulf countries by Alfalasi et al., which revealed that although dupilumab yielded results in controlling the disease, its access and awareness were a major limiting factor (5). The psychosocial impact of AD cannot be overemphasised. The systematic review conducted by Fasseeh et al. has concluded that adults and adolescents with AD experience increased stress, sleep disturbance, and reduced productivity (6). These are some of the issues that have not been observed in primary care consultation based on physical signs alone.

According to Zhang et al., there is a close relationship between AD and sleep disorders, which also aggravates the severity of the disease and affects the mind (13). Treatment is only incomplete without a good appreciation of these psychosocial components. Climate change, migration and urbanisation are also suspected of increasing the cases of AD. The meta-analytical results of Wong and Chew suggested that, after migration into an urban setting, allergic diseases, such as AD, rise because of the exposure to more pollutants and indoor allergens (14). These risk factors are reflected in Kuwait, which is a fast urbanising country and has witnessed an influx of expatriates. Moreover, Saoud et al. have stressed that the issue of multimorbidity in Kuwaiti adults makes the management of chronic conditions, including AD, even more difficult when such patients have to consult with numerous doctors (15). This shows that there is a need to enhance integration within primary care systems to address comorbidities with AD.

Additional problems are presented by clinical overlap with other dermatological/allergic diseases. Cunliffe et al. addressed the con-currence of atopic eczema and psoriasis so that the inappropriate use of a treatment strategy may occur due to the number of diagnostic mistakes or the combination of similar symptoms (12). This is a particularly pertinent issue in primary care, where practitioners are less well-equipped. Moreover, Al-Ahmad et al. and Marglani et al. expressed the opinion on the implementation of care pathways to allergic rhinitis and chronic rhinosinusitis in the Gulf region, which could be used as guidance sources of AD care plans in Kuwait (10, 16). There is also a concern about preventative measures. The meta-analysis study by Ding et al. had shown a protective association of breastfeeding against allergic diseases such as food allergy and allergic rhinitis, which possess the pathophysiological similarities with AD (17). Such improvements in interventions during early life may play a role in lowering the occurrence of AD in the future by encouraging women's health programs. Nevertheless, these preventive measures tend to be underestimated within the Kuwait healthcare context and must receive more attention.

Special populations have special care issues. Singal and Lipner examined skin diseases in the army, where environmental hazards and poor access to medical services caused a deterioration in the situation (18). The population of Kuwait is also different in its composition, but there are also common challenges facing expatriate workers because they may not always have access to dermatological

services or health education services. Furthermore, the treatment of skin conditions in women, particularly pregnant women, involves extra factors. According to a study by Kocaturl et al. on urticaria and pregnancy, the management of maternal safety and fetal safety is complicated, and it also applies to women with AD who are pregnant (19). There is also an increasing belief that solving these problems of multifactorial origin is more than what pharmaceutical interventions would handle. Patient and provider Education is necessary. Al Busaidi et al. suggested the implementation of continuing medical education programs in PCP that are aimed at allergy and dermatology care to enhance diagnostic precision and treatment efficiency (9).

Education and empowerment of the patient include counselling and providing education materials specific to the disease, which is also crucial to better adherence and outcomes. Finally, the treatment of atopic dermatitis within the primary care system in Kuwait is incomplete. Despite the advancements in raising awareness about the disease burden, systemic problems continue to exist, including diagnosing inconsistency and treatment failure, as well as restricted access to innovative treatments and the insufficiency of psychosocial support. Leading a multi-faceted intervention combining patient education with guideline-directed treatment, preventive measures, and interprofessional collaboration, Kuwait will be able to enhance its primary care response to AD and enhance the quality of life enjoyed by its patient population.

CONCLUSION

This systematic review suggests the large burden of atopic dermatitis (AD) within primary care in Kuwait and specifically among children and adolescents. Although first-line drugs, such as emollients and topical corticosteroids, would be prescribed most, adherence is one of the greatest challenges, including the usage of systemic drugs and biologics, such as dupilumab. The problems with limited patient education, inconsistent care pathways, and issues with diagnostic processes will also complicate disease management. Psychosocial effects, such as sleep and stress, are mildly noted in clinical practice, even though they affect the disease condition and well-being of patients. Moreover, the urbanization process, comorbidities, and poor access to dermatological specialists also complicate AD care in Kuwait. The standardizable care protocols, better primary care training, better patient training, and broader access to sophisticated treatment options are needed to cope with these troubling problems. The multidisciplinary and patient-centred approach will play a critical role in increasing outcomes and decreasing the long-term burden of AD on the healthcare system of Kuwait.

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