



Methods of unproved or uncertain effectiveness used by patients with Atopic Dermatitis

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Abstract

Introduction and Objective. Atopic dermatitis (AD) is a common, chronic, recurrent dermatosis. It frequently decreases the quality of life and leads to frustration of both patients and their families. Patients with AD seek a variety of therapeutic options, including non-conventional methods. The aim of the study was to determine which practices of unproved or uncertain effectiveness are most frequently used by AD patients in Poland.

Materials and methods. 113 survey participants were enrolled (99 parents of children and 14 adults) in Poland diagnosed with AD who responded to an online survey created using Google Forms distributed to online support groups for parents of patients and patients diagnosed with AD. Respondents were given a list of methods of unproved or uncertain treatments for AD, and were asked to choose the methods that they had employed at least once in their lives to manage their or their children's AD.

Results. At least one method described in the study to manage AD had been tried by 76.1% of respondents. Black seed oil was the most popular pure oil, with up to 36.3% of respondents having tried it, making it as popular as cannabinoid-containing ointments and creams. The use of propolis was reported by 24.8% of respondents. Acupuncture had been tried at least once by 23.9% of patients or parents of patients, while 18% attempted bioresonance.

Conclusions. This study reveals that AD patients engage in a wide range of practices that contradict current knowledge and recommendations. Dissemination of reliable sources of information and insightful conversations in doctors' offices about methods seem important.

Key words

atopic dermatitis, non-conventional methods, topical use of vegetable oils

INTRODUCTION

Atopic dermatitis (AD) is a common, inflammatory, chronic dermatosis characterized by persistent itching of the skin [1]. It affects up to 20% of children and 3-7% of adults worldwide [1, 2]. The prevalence and severity of symptoms vary by age and population [3, 4]. For instance, the lifetime incidence of AD varies from 0.2% in China to 24.6% in Columbia among adolescents aged 13–14 years [4]. In the United States, 13% of children have AD [5]. Presumably due to socio-economic conditions, the average prevalence of AD in western and northern European nations is higher than in eastern countries [3]. Skin barrier disruption, environmental and genetic factors, skin microbiota dysbiosis, and altered immune response are the basis of AD pathogenesis. [1] The treatment regimen necessitates modifications to daily activities [1]; this, combined with the relapsing nature of the disease and the lack of sleep caused by pruritus, can be the cause of frustration for both patients and their families, thereby reducing their quality of life [1].

The application of emollients should be done at least two to three times per day by all patients, regardless of the disease's

severity [6]. Numerous topical and systemic therapy options are available and recommended for AD treatment depending on the disease's severity. However, improper adherence to their prescribed usage reduces the efficacy of the treatment [7]. In addition, patients frequently fear their side-effects, serydophobia being the most prominent example, and they may view natural therapies as being safer [8]. Consequently, some patients look for various therapeutic options, including non-conventional ones [9]. The aim of this study was to determine the prevalence of these strategies among patients and parents of patients with AD who visit online support groups.

OBJECTIVES

The aim of the study was to establish how widespread the problem of alternative therapies is among AD patients in Poland, and to determine which methods of unproved or uncertain effectiveness in AD management are most frequently utilized by patients.

MATERIALS AND METHOD

A total number of 113 respondents from Poland (99 parents of 123 children and 14 adults diagnosed with AD) completed an online questionnaire created via Google Forms and shared

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among parents of patients and patients in online support groups. The eligibility criteria included the presence of at least one child with a doctor-diagnosed case of AD or being diagnosed with AD. Patients and parents of patients were provided with a list of methods of unproved or uncertain AD treatments, and were asked to select those that they have used at least once in their lives to manage their or their children's AD. Publications and online patient support groups were used to select the methods which included: the topical use of pure oils, creams or ointments containing cannabinoid receptor agonists, bee products (propolis, beeswax, honey), aromatherapy, acupuncture, acupressure, massages, Chinese herbal medicine, fish oil and vitamin E supplementation, herbal dietary supplements, autologous blood injections, bio-resonance therapy, and homoeopathy.

The study was approved by the Independent Bioethics Committee for Scientific Research at the Medical University of Gdańsk (Approval No. NKBBN/1/2022).

RESULTS

At least once in their lives, 76.1% of respondents had attempted to use at least one method described in this study to manage AD (Fig. 1). At least one pure oil to be used topically on patients' skin or the skin of children had been tried by 61.9% of respondents (Fig. 2). The most prevalent was black seed oil (*Nigella* seed oil), with 36.3% of respondents having tried it. Following this, 30.1%, 22.1%, and 21.2% of respondents, respectively, had attempted using coconut oil, hemp seed oil, and evening primrose oil. Olive oil had been tried by 11.5% of those polled, followed by linseed oil (4.4%) and almond oil (4.4%). In 2.7% of cases, respondents had used sunflower seed oil on their skin or the skin of their children.

Along with topical use of black seed oil, 36.3% of respondents had used a cannabinoid receptor agonist in the form of cream or ointment on their skin or the skin of their children at least once, making them the most popular unproved or uncertainly effective practices. Propolis was the most frequently applied bee product, with up to 24.8% of patients or parents of patients having confirmed its use to treat AD. Bee wax had been used by 8% of patients or parents

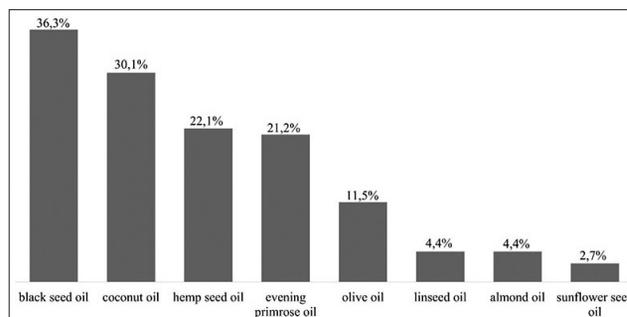


Figure 2. Pure oils most commonly used by respondents topically

of patients, whereas 8.8% had used honey at least once in their lives. Massages and acupuncture had been implemented by 7.1% of respondents to manage AD, while 1.8% had used acupressure and 4.4% had utilized aromatherapy. Chinese herbal medicine had been used by only 0.9% of respondents. Vitamin E supplementation had been used by 2.1% of those who filled out a questionnaire for AD treatment, and fish oil by 31.6%. Herbal dietary supplements had been used by 12.6% of the sample population, whereas autologous blood injections had not been used by a single respondent. Homoeopathy had been used at least once by 23.9% of those who filled out the questionnaire, whereas bioresonance therapy had been used by 18.6% of them.

DISCUSSION

The use of methods of unproved or uncertain effectiveness by adults and children is on the rise, and this is especially true for allergic illnesses[10]. Only a few studies have examined the national and worldwide prevalence of these treatments specifically among patients with AD [11–15]. In both Germany and Norway, 51% of adult patients have used methods of unproved or uncertain effectiveness to manage AD, in Turkey – 68.7% have done so, whereas in the United States, 43.5% have reported using at least one of these methods [11, 15, 16]. In this study, 76.1% of respondents tried at least one of the described methods at least once in their lives to manage AD.

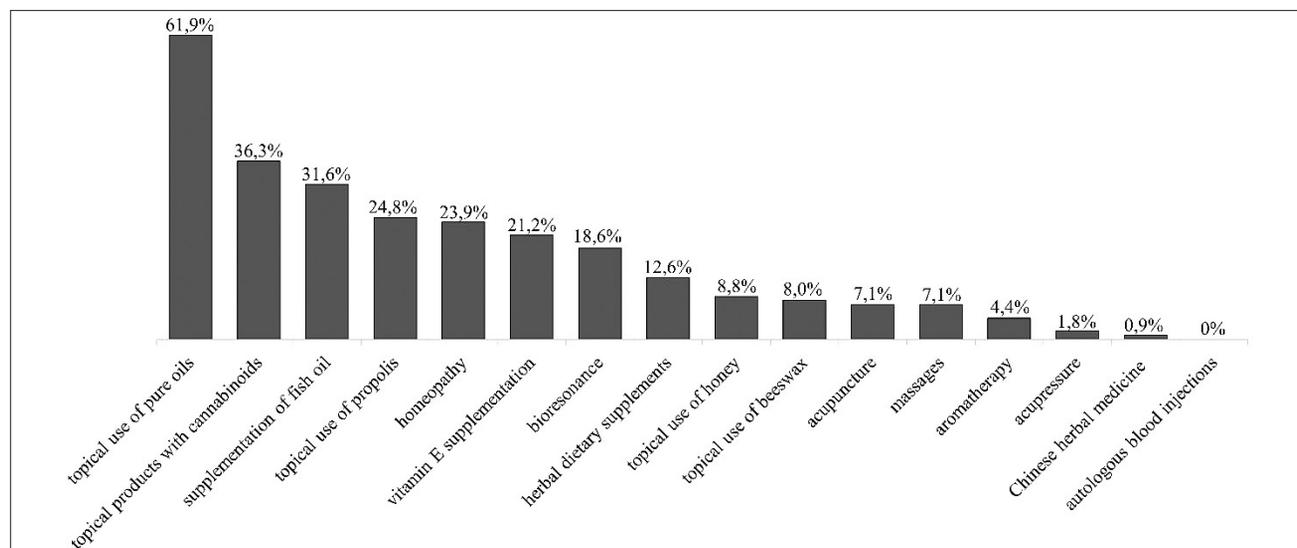


Figure 1. Methods of unproved or uncertain effectiveness used by respondents

Each method of unproved or uncertain effectiveness prevalence varies by country [11–15]. In the study conducted in Leicester, for instance, 20% of paediatric patients with AD used Chinese herbal medicine, whereas only 0.9% of Polish patients used it according to the current study [13]. Homoeopathy has a slightly larger presence in Germany, where 35.8% of patients with allergies used it, whereas in Poland just 23.9% of patients with AD did so [11]. In contrast, autologous blood injections were the second most common treatment method in Germany, with 28.1% of patients using them, but not a single patient in the current study did so [11]. Only 31.6% of patients in Denmark reported using methods of unproved or uncertain effectiveness at least once, which is considered to be a relatively low prevalence [11, 14, 15]. Acupuncture was the most commonly used method in Denmark, with 15.7% of adult patient using it, compared to 7.1% in the current study [12]. Oils were used by only 2.1% of Danish adult patients, 41.9% of Turkish patients, whereas in the current study, 61.9% of patients have applied pure oil on their skin at least once, making it the most commonly used method [12, 16].

Depending on the geographical location, there can be some specific treatments not commonly used in other countries, such as in Malaysia, where Malay herbs, massages, and cupping are popular among AD patients [14]. According to our knowledge, this is the first study to examine the prevalence of methods of unproved or uncertain effectiveness among the Polish population diagnosed with AD.

Even though there is some evidence of efficacy for a number of the methods described in this study, there is an absence of larger trials and a lack of comparison with standard AD treatment while, on the other hand, some methods are simply ineffective or even dangerous [10, 17–32]. Patients frequently mistakenly believe that natural methods are safer, which is not the case [33]. It is important to highlight that when treatment failure occurs, the first and most important thing to examine is the patient's adherence to the prescribed medications and the assessment of whether or not they are being used properly [7]. Further causes can be examined later [7]. The utilization of alternative treatments and misinformation among patients unquestionably contribute to poor compliance with prescribed treatments [7].

Topical use of pure oil has been implemented by 61.9% of patients. However, pure oil products are not recommended for topical use because they increase transepidermal water loss (TEWL), which causes skin dryness [17]. Additionally, it is essential to consider the risk of allergic contact dermatitis (ACD) [19, 25]. Emollient therapy remains the foundation of AD regimen and should be chosen as the first-line treatment for moisturizing the skin [17]. In certain instances, it is possible to use unsaturated fatty acids as an ingredient in emollients. [17]

Itching is one of the most important clinical symptom of AD, with a significant impact on emotional dimensions of perception [17]. Studies provided insight into the potential mechanisms of cannabinoid modulation on pruritus, with neuronal modulation of peripheral itch fibers and centrally-acting cannabinoid receptors providing the most evidence [34]. Topical application of cannabinoid receptor agonists has been documented to have antipruritic and analgesic effects, additionally alleviating AD skin symptoms in some trials [20, 35]. Despite the fact that preliminary studies demonstrated the efficacy of cannabinoids in AD treatment, they should not be

recommended to patients due to the absence of larger-scale studies [35]. However, up to 36.3% of patients declared using it at least once.

Although propolis may have anti-allergic qualities, it is essential to realize that its composition might vary based on factors such as bee species and geographic area [23]. In a separate study, a mixture of honey, beeswax, and olive oil reduced the use of topical corticosteroids (TCS) by 80% in AD patients [30]. Even though honey showed some promising preliminary results, more studies are needed, especially with a more practical form of honey to use topically on the skin [24]. However, it was the most frequently used bee product among AD patients, with 24.8% of parents of patients or patients reporting at least one use.

Acupuncture and acupressure have also been studied, mainly for the management of allergen-induced itch [21, 22]. Acupuncture has been used by 7.1% of those polled, whereas 1.8% utilized acupressure to manage their or their children's AD. There is an absence of evidence to support the use of acupuncture or acupressure in the treatment of AD due to the lack of rigorous methodology in the trials, combined with too small study groups [27]. The same situation can be applied to massages and aromatherapy, which also showed promising preliminary results, although larger trials are lacking [21, 22]. Massages and aromatherapy have been used by 7.1% and 4.4% of respondents, respectively. Of concern was the fact that numerous acupuncture complications, including fatal ones, have been described in the literature, such as infections caused by poor sterilization, pneumothorax, and cardiac tamponade [10].

According to meta-analyses comparing 28 clinical trials, Chinese herbal medicine administered orally or applied topically to the skin has not been shown to reduce the severity of eczema in children or adults, [31]. The usage of Chinese herbal medicine can lead to various adverse events, including gastrointestinal events, which are the most common, as well as other more severe ones [32]. Chinese herbal medicine, however, seems to be sparsely used as only one respondent admitted using it.

A number of 11 trials were included in a systematic review of the effects of dietary supplements on the treatment of AD, and the results did not support the use of fish oil and vitamin E as treatments for the disease [36]. However, both methods appear to be popular, as 31.6% and 21.2% of respondents use them, respectively.

Bioresonance is based on the premise that a person develops a disease when the electric fields or electromagnetic frequencies in the body are out of balance and that this imbalance can be corrected by introducing exterior electric energy [29]. There is only one study evaluating the efficacy and safety of bioresonance therapy, conducted on a group of paediatric patients hospitalized for an extended period of time owing to AD; hence, no firm conclusions can be drawn due to the absence of additional trials [22, 28]. Surprisingly, 18.6% of patients reported using it at least once. Homeopathy selects small quantities of various chemicals by matching a patient's symptoms with symptoms caused by these substances in healthy people, with the notion that they stimulate autoregulation and self-healing processes [37]. There is an absence of evidence to support the use of homeopathy in the treatment of AD [17]. There have been isolated incidences of contact allergy sensitization, although systemic toxicity is unlikely but cannot be ruled out [10].

Homeopathy has been used to manage AD by 23.9% of those polled.

CONCLUSION

In conclusion, the use of the described procedures delays the introduction of an adequate treatment based on evidence-based medicine (EBM). It is recommended that physicians inquire about their patients' use of unproved or uncertain methods, as they may interact with the standard therapy or cause the patient to discontinue the prescribed treatment in favour of more 'natural' methods. In addition, physicians should have a basic understanding of the most commonly used treatments of unproved or uncertain effectiveness and be able to explain why they are not the best options for AD therapy. Due to the relatively high prevalence of alternative methods for AD management in Poland, use among patients special attention and systemic changes are required to improve education and promote treatment adherence among.

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