Epidemiology of Skin Diseases from the Spectrum of Dermatitis and Eczema

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Abstract

Particular types of eczema may affect up to 29% individuals in certain populations (lifetime prevalence), thus placing the diseases among most frequent clinical problems. Nevertheless, diseases from the spectrum of dermatitis and eczema are poorly defined and frequently misdiagnosed; they also frequently overlap, making the diagnostic process even more difficult. In doubtful cases, where no further means of clinical or laboratory differentiation are available, reliable epidemiological data may provide relevant help in the diagnostic process, as the best candidate for a tentative diagnosis seems the most frequent among diseases in question, which can be verified later by the effectiveness of respective treatment regimen. However, results of epidemiological studies in the field of eczema and dermatitis may be strikingly contradictory, one of the possible reasons being definitions of various types of eczema/dermatitis that leave too much space for individual decision and thus seem hardly suitable for epidemiological research. Better studies based on unequivocal definitions of various types of eczema are necessary to achieve the quality of epidemiological data that would ensure the level of certainty expected from a diagnostic tool. The present paper collates results from available epidemiological data on various types of eczema: atopic eczema, allergic and irritant contact dermatitis, protein contact dermatitis, seborrhoeic dermatitis, asteatotic dermatitis, stasis dermatitis, nummular eczema, dyshidrotic eczema (pompholyx), hand dermatitis and occupational dermatitis. Problems and possible sources of bias in available studies are addressed and discussed along with the results from the studies.

Keywords: *epidemiology; atopic eczema; allergic and irritant contact dermatitis; protein contact dermatitis; seborrhoeic dermatitis; asteatotic dermatitis; stasis dermatitis; nummular eczema; dyshidrotic eczema; pompholyx; hand dermatitis; occupational dermatitis*

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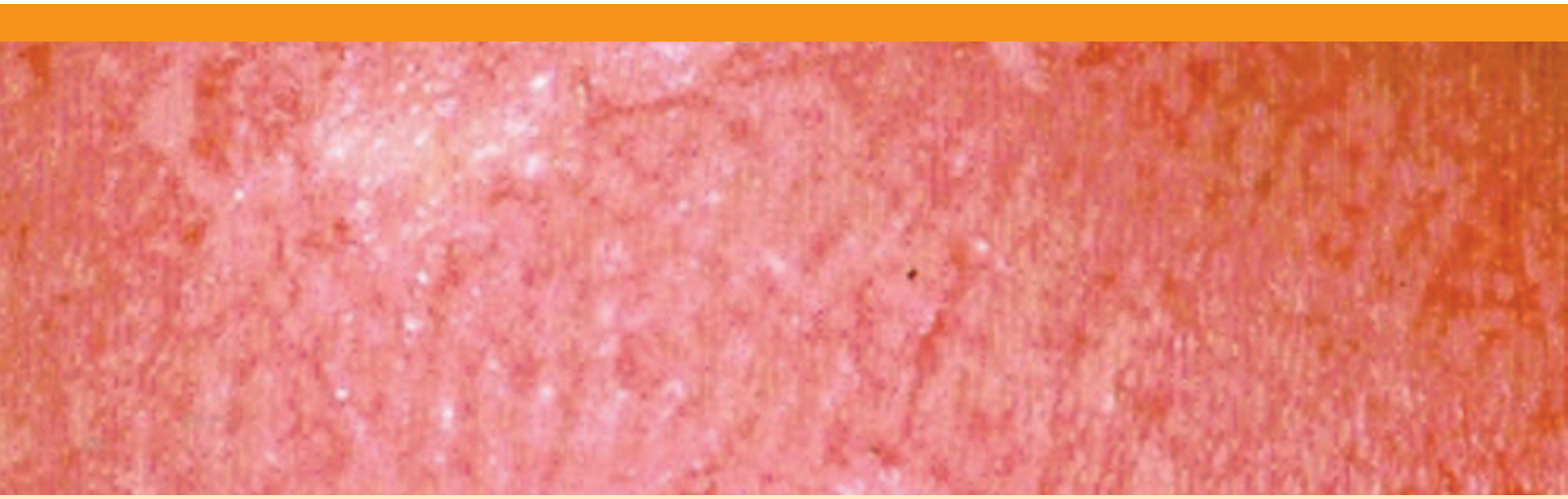

Introduction

The knowledge of the frequency of diseases is important for policy makers, insurers, but it is also a very important diagnostic tool in the hand of a clinician. In a considerable group of patients the clinical picture does not allow for a clear-cut diagnosis, and after exhausting all available possibilities of differential diagnosis the clinician is stuck with two or more possible diagnoses.

In such cases, the knowledge of epidemiology may be resorted to as the ultimate instance of clinical decision. Knowing the prevalence rates of otherwise equally possible diseases that come in question, it seems rational to pick the more prevalent disease as the tentative diagnosis, with a possible revision if appropriate treatment turns out ineffective.

Eczema

(synonym: dermatitis) is noncontagious inflammation of the epidermis and dermis with characteristic clinical features (itch, erythema, papule, seropapule, vesicle, scale, squame, crust or lichenification that emerge simultaneously or evolve from one another) and distinct histological picture (spongiosis, acanthosis, parakeratosis, lymphocytic and granulocytic infiltrates)[1, 2].

The debate on the differences between the terms "eczema" and "dermatitis" has been ongoing for many decades, with no definite conclusion[3, 4]. Therefore, in the present article these terms will be considered as synonyms. The clinical spectrum of dermatitis/eczema diseases includes an array of diseases that sometimes are depicted as mutual opposites, however, their clinical features and pathomechanisms overlap to an extent making any clear-cut differentiation virtually impossible.

In epidemiological studies of the various dermatitides, most striking is the difficulty of drawing general conclusions, mainly due to imprecise definitions and incompatible outcome measures. This must be born in mind when looking at the epidemiological data discussed below.

In the analysis of diseases frequency, it is crucial to remember that different methods of collecting epidemiological data may give different outcomes. The most popular method to obtain epidemiological data on diseases is self-administered questionnaire. This method has some advantages, which are very important when conducting an epidemiological research: it is inexpensive and easy to use, so it can be applied in large populations.

Disadvantages of the questionnaire-based method are also very significant, especially the possibility of misunderstanding the questions which may lead to the probability of overestimation of the obtained results[5].

Another method for assessing the frequency of diseases is medical examination. This method seems more objective and thus more reliable because it allows for verification of symptoms by a specialist. In comparison to the questionnaire-based method, medical examination requires much more costs and time for performing[6]. Moreover, when comparing these two methods of collecting epidemiological data, it is important to remember that questionnaire-based method is more suitable for collecting information about prevalence of diseases over a period of time (e.g., lifetime prevalence or one-year prevalence), while medical examination is more appropriate for assessing the presence of the disease at a particular point in time (point prevalence)[7]. Thus these methods should be regarded as complementary.

Some estimates about the frequency of diseases come from various registers, such as hospital records, national or local statistics (e.g. occupational diseases statistics). This "ecological" (i.e. not consuming new resources) method has its advantages, for example it allows for comparison of trends at different time points. However, discrepancies may arise due to different classifications of diseases used in various data collecting systems, or in various periods of time.

A major possible disadvantage of using the "epidemiological approach" in clinical diagnosis is that of a "self-fulfilling prophecy": With poor-quality epidemiological data at the start, one may classify unclear cases of eczema for this type that is believed to be most frequent, which may not necessarily be the truth, however, by doing so the statistics are biased toward the tentative diagnosis, thus reinforcing one's beliefs into seemingly "scientific proof". It seems that this is especially true for the diseases from the spectrum of dermatitis and eczema.

Therefore, it is extremely important to be critical when looking at the frequency rates of diseases from the spectrum of dermatitis and eczema. The differences in definitions of the diseases in various studies or sometimes lack of any definitions, strongly supports this attitude. In this article, in order to be able to collate available epidemiological data, we have adopted a simplistic attitude that the diagnosis of a given disease is defined by the authors' declaration (i.e. belief) that they studied this particular disease. The following data, therefore, give us some idea about possible prevalence rates, however, due caution is recommended while using them for "epidemiological" diagnosis.

Atopic eczema

(AE, synonym: atopic dermatitis) is a chronic inflammatory skin disease that commonly begins in early infancy, runs a course of exacerbations and remissions, and is associated with a characteristic distribution and morphology of skin lesions. Furthermore, pruritus and subsequent sleeplessness are hallmarks of this disease[8]. This "minimalist" definition seems most acceptable for the time being, as it puts forward the common clinical characteristics while avoiding references to pathomechanisms, which are still subject to controversy (see below).

Prevalence of atopic dermatitis/eczema in children has been widely assessed. The most known epidemiological study on atopic eczema (AE) in children is the ISAAC Study[9]. This questionnaire-based study allows estimating one-year and lifetime prevalence rates of AE among children. Table 1 presents prevalence rates of atopic eczema according to studies based on the ISAAC questionnaire. Both indices of the disease frequency (one-year prevalence, and lifetime prevalence) showed great variability in the estimations among countries ranging from 4.5% to 20.2% (1-year prevalence) and from 2.4% to 28.7% (lifetime prevalence) [10-12].

However, there has been a heated discussion on how reliable is the ISAAC questionnaire in detecting AE[13,14], with recent data showing that up to 50% of children with 'ISAAC eczema' may in fact be ill with allergic contact dermatitis (ACD)[15]. Flexural eczema - almost a "diagnostic fetish" in past epidemiological studies of AE has turned out less specific to AE than previously believed[16], not least so because this clinical feature is also common in ACD[17-21], and cases of ACD-related flexural eczema have been misdiagnosed as AE for decades[22, 23]. With this respect, ISAAC studies may be looked at as an example of the "self-fulfilling prophecy" in the epidemiology of eczema in children. In order to overcome these limitations, other methods were also used when assessing the frequency of AE.

Detailed information on the prevalence of AE in children according to studies not based on the ISAAC questionnaire is shown in Table 2. Less is known on the prevalence of AE in adults - available data are collated in Table 3. The major problem with the epidemiological data of AE is that "atopic eczema" seems in fact to be a heterogeneous group of diseases with similar clinical appearance, rather than a single disease.

The spectrum of involved pathologies range from type I and IV allergy (possibly also types II and III), to barrier dysfunction, abnormalities of the innate immune response and autoimmunity, while it remains unclear, which of those are actual causes and which secondary phenomena[24-27]. For example, the causal role of IgE-mediated food allergy in AE seems overrated[28, 29] and the development of food-specific IgE may, in fact, be secondary to eczema[30].

The name "atopic dermatitis" itself was already criticized by Rajka in 1975 as an "unfortunate choice of term"[31], which is supported by the fact that a majority of AE patients show no evidence of atopy[32]. Perhaps "Hanifin-Rajka Syndrome" would be a more appropriate name for this entity, avoiding the reference to questionable aetiology and focusing instead on the common clinical picture first compiled by the authors.

Table 1 Prevalence rates of atopic dermatitis in children according to studies based on the ISAAC questionnaire.

Country	Age of children	Gender of children	One-year prevalence	Lifetime prevalence
Austria[33*]	6-9 (1995-97)	Boys	5.0%	8.2%
		Girls	7.0%	10.2%
	6-9 (2001-03)	Boys	5.9%	10.2%
		Girls	7.6%	11.8%
Brazil[34]	13-14	Boys and girls	-	16.2%
China[35]	6-13	Boys and girls	5.5%	-
China[36^]	0-14	Boys and girls	-	14.5%
Croatia[37]	12-14	Boys and girls	5.3%	7.0%
Germany[38]	6-7	Boys	7.3%	14.3%
		Girls	6.7%	14.6%
	13-14	Boys	5.0%	8.2%
		Girls	9.4%	12.3%
	6-7	Boys	6.6%	13.6%
		Girls	9.8%	16.9%
	13-14	Boys	4.5%	10.9%
		Girls	11.1%	17.4%
Ghana[39^]	4-16	Boys	-	4.0%
		Girls		
Iran[40]	13-14	Boys and girls	10.1%	-
Italy[41]	2	Boys	16.8%	-
		Girls	18.7%	-
	3	Boys	16.2%	-
		Girls	20.2%	-
	4	Boys	19.1%	-
		Girls	17.2%	-
Korea[42]	8-11	Boys	12.7%	26.8%
		Girls	14.5%	28.7%
Malta[43]	13-15 (1995)	Boys and girls	12.8%	11.2%
	13-15 (2000)	Boys and girls	10.1%	8.5%
Mexico[44**]	6-8	Boys and girls	10.1%	15.0%
	11-14		10.5%	17.0%
	6-8	Boys and girls	5.8%	7.3%
	11-14		5.4%	7.0%
Montenegro[45]	6-7	Boys and girls	9.5%	-
	13-14		9.1%	-
Poland[46]	7	Boys and girls	-	9.4%
	16		-	3.4%
Serbia[45]	6-7	Boys and girls	11.2-17.2%	-
	13-14		8.2-16.2%	-
Spain[47]	6-7	Boys and girls	-	5.9%
Spain[48]	10-11	Boys and girls	-	11.4%
	1-2		15.0%	16.2%
Sweden[49]	2-3	Boys and girls	20.2%	23.7%
	3-4		20.7%	25.8%
	6-7	Boys and girls	17.8%	22.5%
	7-8		16.6%	21.2%
	8-9		20.7%	26.1%
United Kingdom[50]	6-7	Boys	-	27.8%
		Girls	-	27.0%

* *prevalence rates were estimated using questions about presence of an itchy rash in the past 12 months and lifetime symptoms of an itchy rash*
** *prevalence rates were estimated using questions about presence of dry itchy skin spots in the last 12 months and at any time*
^ *calculated based on the figures provided by the authors*

Table 2 Prevalence of atopic eczema in children in various studies based on different methods.

Country	Age of children	Method of assessment	Results
Denmark[51]	12-16	Q ME	*lifetime prevalence:* 21.3% (17.0% boys; 25.7% girls) *one-year prevalence:* 6.7% (5.6% boys; 7.7% girls) *point prevalence:* 3.6% (3.8% boys; 3.4% girls)
Denmark[52]	7	Q	*lifetime prevalence:* 22.9%
Gabon[39]	4-16	ME	*point prevalence:* 4.0%
Germany[53]	5-7	ME	*point prevalence:* 12.9%
Germany[54]	0-4	Q	*lifetime prevalence:* 21.4%
Germany[52]	7	Q	*lifetime prevalence:* 13.1%
Germany[55]	< 10	Q	*lifetime prevalence:* 13.0% (Leipzig), 13.9% (Munich)
Ghana[39]^	4-16	ME	*point prevalence:* 1.6%
Rwanda[39]	4-16	ME	*point prevalence::* 0.8%
Spain[48]	10-11	ME	*point prevalence:* 1.9%
Sweden[52]	7	Q	*lifetime prevalence:* 15.5%
Turkey[56]	0-16	HR	*lifetime prevalence:* 11.8%
United Kingdom[57]	1-5	Q	*one-year prevalence:* 16.5% (22% in 1-2 y.o.; 19% in 2-3 y.o.; 13% in 3-4 y.o.; 15% in 4-5 y.o.)
United States[58]	5-9	Q	17.2% (standard scoring criteria) 6.8% (highly stringent criteria)

Q - questionnaire; ME - medical examination; HR - hospital record *^ own calculations based on the figures provided by the authors*

Contact dermatitis

(Synonym: contact eczema) is a collective term for three dermatitides with various aetiologies, whose common feature is the development of skin inflammation in response to a direct contact with the provoking agent: 1) irritant contact dermatitis, 2) allergic contact dermatitis and 3) protein contact dermatitis[66].

Allergic contact dermatitis

(Synonym: allergic contact eczema) is inflammatory skin disease initiated by specific immune reaction to a hapten. It occurs in individuals with previously acquired contact allergy following re-exposure to the sensitizing hapten[67]. In contrast to ICD, only a minority of people exposed to a particular hapten will respond with dermatitis. When looking at epidemiological data, one must remember that ACD is not the same as contact allergy (CA).

Table 3 Prevalence rates of atopic eczema in adults.

Country	Age of children	Method of assessment	Results
Australia[59]	20+	ME	*point prevalence:* 5.7% in men, 8.1% in women
Denmark[60]	18-69	Q	*lifetime prevalence:* 10.0%
Germany[61]	0-99	Q ME	*lifetime prevalence:* 23.5% *point prevalence:* 16.0%
Japan[62]	20+	ME	*point prevalence:* 6.9% (participants in their 20s: 9.8%; 30s: 8.7%; 40s: 4.4%; 50/60s: 2.6%)
Norway[63]	18-69	Q	*lifetime prevalence:* 13.8% in men, 19.0% in women
Norway[64]	born in 1970, 1960, 1955, 1940-1941 and 1924-1925	Q	*lifetime prevalence:* 8.8%
Poland[65]	18-19	Q ME	*lifetime prevalence:* 5.0% *one-year prevalence:* 3.9% *point prevalence:* 2.5%
Russia[63]	18-69	Q	*lifetime prevalence:* 10.4% in men, 12.0% in women

Q - questionnaire; ME - medical examination

The term "contact allergy" refers to a state of altered response of the immune system to a specific substance, which is not synonymous with disease. Certain proportion of people with CA will never develop clinical symptoms. Among those symptomatic, vast majority will develop ACD, which is an inflammatory disease of the skin provoked by a hapten (a low molecular sensitizer), following the exposure to this hapten of a sensitized person[68]. Confusing contact allergy with allergic contact dermatitis seems a frequent mistake of doctors and authors of clinical and epidemiological studies.

Children

A very comprehensive method of establishing the prevalence of ACD in children was used in the study conducted in Denmark. ACD in the group of 12-16 years old children was defined by the co-existence of the three criteria: 1) contact allergy diagnosed by a positive patch test 2) exposure history and 3) history or present dermatitis pattern. Lifetime prevalence of ACD was 7.2%, and point prevalence 0.7% (calculated on the basis of data provided in the article)[51]. A Polish study showed that among 7-year old children the lifetime prevalence of symptoms of ACD was slightly higher than among 16-year olds (7.2% versus 6.1%)[46]. This is also reflected in higher contact hypersensitivity rates among children (67.0%) than adolescents (58.1%) seen in a similar cohort of Polish children[69], which may be explained by changing exposure patterns in the rapidly westernising country[70].

Adults

In the United States, in a study of university students, ACD was the cause of 3.1% of first-time visits to dermatologists, and 2.4% of total visits to dermatologists[71]. In Poland, prevalence of ACD was assessed among students of vocational agricultural schools. History and symptoms-based physician diagnosis estimated the frequency of ACD as: 2.0% (point prevalence), 9.3% (one-year prevalence), and 17.5% (lifetime prevalence)[65].

Irritant contact dermatitis

(ICD) is acquired inflammatory skin disease caused by chemical or physical insults leading to direct cellular injury. Most of ICD cases are associated with detergents, solvents, acids or alkali. Acute ICD (toxic dermatitis) develops rapidly (minutes to hours) after exposure to potent irritants, while chronic, cumulative variants of ICD develop gradually in response to repeated contacts with milder irritants[72]. ICD is essentially an injury, therefore, everyone will develop this disease after an individual threshold of resistance to irritants is exceeded[73].

The prevalence of irritant contact dermatitis (ICD) in general population is hard to determine, especially among children. Study conducted on a group of university students in the United States, showed that ICD was the cause of 2.3% of first-time visits to dermatologists, and 1.6% of total visits to dermatologists[71]. In Poland, estimations from the study conducted among students of a vocational school were: 0.5% (point prevalence), 4.3% (one-year prevalence), and 12.7% (lifetime prevalence)[65].

Protein contact dermatitis

(PCD) is acquired inflammatory skin disease initiated by specific immune reactions to allergens - proteins with molecular weight exceeding 10000 Daltons, usually of animal or plant origin[74, 75]. There is lack of data on the frequency of protein contact dermatitis among children. Estimates for adults are available only for work-related settings. In Finland, protein contact dermatitis (together with contact urticaria) accounted for 11.1% of all allergic occupational diseases reported in 1991[76]. Protein contact dermatitis was found in 22% of a group of 144 slaughterhouse workers in Denmark[77].

Seborrhoeic dermatitis

Seborrhoeic dermatitis is an inflammatory skin disease of the dermatitis/eczema spectrum, with a characteristic restriction to "seborrhoeic areas", i.e. areas with a high density of sebaceous glands (face, sternum, interscapular area). The aetiology remains unclear, one possibility being the excessive development of lipophilic Malassezia yeasts on the seborrheic skin with secondary development of inflammation in response to signalling molecules such as malassezin[78].

Little is known on the prevalence of seborrhoeic dermatitis. In a Turkish study of paediatric patients (0-16 years old) in a hospital registry, 4.3% children were diagnosed with seborrhoeic dermatitis[56]. The prevalence of seborrhoeic dermatitis in adults was established in an Australian study based on medical examination, was 12.3% in men, and 7.3% in women[59]. Among university students in the USA, seborrhoeic dermatitis was the cause of 3.1% of first-time visits, and of 2.4% of all dermatologist consultations[71].

In a prospective, skin examination-based study of renal transplant recipients in the UK, seborrhoeic dermatitis was found in 9.5% of the participants[79]. The prevalence of seborrhoeic dermatitis of the face and scalp diagnosed among mountain guides was 16.3%, which might hint on a role of UV irradiation in these cases[80].

Asteatotic dermatitis

Asteatotic dermatitis (dry skin dermatitis, winter itch) is an entity of unknown aetiology, characterised by the presence of dry, scaly, fissuring skin accompanied with pruritus, typically localised on the calves, with a possibility of spreading. Among exacerbating/causative factors, skin ageing with atrophy and xerosis, low humidity of ambient air, as well as frequent bathing and excessive detergent use are mentioned. Among Australian adults the prevalence of doctor-diagnosed asteatotic dermatitis was 6.6% in men, and 10.4% in women[59].

Stasis dermatitis

Stasis dermatitis is a skin manifestation of venous insufficiency and frequently is accompanied by other symptoms like the presence of varicous veins, leg oedema and ulcers, hemosiderin deposits in the skin and liposclerosis of the skin. The typical localization is calves. In the above-mentioned Australian study, the frequency of stasis dermatitis was assessed at 2.1% in men, and 1.5% in women[59].

Nummular eczema

Nummular eczema (nummular dermatitis, discoid dermatitis) is characterized by solitary or multiple, well-demarcated, round or oval-shaped itchy lesions. The typical course of the disease is chronic recurrent. The identity of this disease is built based upon the characteristic clinical appearance; however, the aetiology remains unknown. One of the more popular hypotheses considers immunological response (allergic reaction type II or IV) to circulating antigens of bacteria, fungi or parasites. On the other hand, it seems that may various types of eczema may take this clinical appearance, e.g. atopic eczema, allergic contact dermatitis (to nickel, neomycin, etc.), along with asteatotic and stasis dermatitis. In a Turkish study utilizing data of hospitalised paediatric patients, 0.4% children (0-16 years old) were diagnosed with nummular dermatitis[56].

Dyshidrotic eczema

Dyshidrotic eczema (pompholyx) is a non-infectious inflammation of the skin characterized by the appearance of pruritic vesicles on the palms and soles. The course of

Table 4 Prevalence rates of hand dermatitis/eczema.

CHILDREN

Country	Age of children	Method of assessment	Results
Denmark[51]	12-16	Q ME	*lifetime prevalence:* 9.2% (6.3% boys, 12.2% girls) *one-year prevalence:* 7.3% (4.6% boys, 10.1% girls) *point prevalence:* 3.2% (2.2% boys, 4.2% girls)
Norway[84]	7-12	Q ME	*one-year prevalence:* 6.5% *point prevalence:* 3.5%

ADULTS

Country	Age of children	Method of assessment	Results
Denmark[60]*	18-69	Q	*lifetime prevalence:* 21.8% (17.0% men, 25.7% women) *one-year prevalence:* 11.7% (8.9% men, 14.0% women)
Norway[64]	born in 1970, 1960, 1955, 1940-1941 and 1924-1925	Q	*lifetime prevalence:* 8.2%
Poland[85]	20-73	Q	*lifetime prevalence:* 17.3% *one-year prevalence:* 10.1% *point prevalence:* 1.9%
Sweden[86]	20-65	Q ME	*one-year prevalence:* 11.0% *point prevalence:* 5.4%
Sweden[87]	20-65	Q	*one-year prevalence:* 11.8% (1983) and 9.7% (1996)
Sweden[88]*	20-77	Q	*lifetime prevalence:* 11.0% (6.8% men, 14.0% women) *one-year prevalence:* 6.5% (4.5% men, 8.1% women)

Q - questionnaire; ME - medical examination ** calculated based on the figures provided by the authors*

the disease may be acute, recurrent, or chronic. The skin lesions frequently are restricted to areas with high density of sweat glands and frequently accompanied by hyperhidrosis[81]. However, it appears that the lesions are not connected with the glands.

In the above-mentioned Turkish study, dyshidrotic eczema was diagnosed in 1.0% of paediatric hospital patients (0-16 years old)[56]. In an epidemiological study of adult Dutch metalworkers, symptoms of dyshidrotic eczema were found in 7.3% of a group of metalworkers[82].

Hand dermatitis

Hand dermatitis is a very special nosological entity that refers to the clinical picture (dermatitis localized on the hands) rather, than to the cause. Hand dermatitis/eczema may be a manifestation of ACD, ICD, atopic dermatitis, or other inflammatory diseases, which in this location are very difficult to differentiate based on the clinical picture or medical tests (including histopathology). A co-existence of more than one causes of hand dermatitis (e.g. ACD + ICD + atopic hand dermatitis) is relatively common, hence it seems practical to view hand dermatitis as a distinct clinical entity[83]. Prevalence rates of hand dermatitis/eczema in children and adults are shown in Table 4.

Occupational dermatitis

Occupational contact dermatitis is neither clinical nor pathological entity; however, due to specific circumstances of appearance and special legal status in many countries, cases of such diseases are closely followed. OCD occurs mostly on hands (80% cases) and face (10% cases)[89]. The frequency of occupational contact dermatitis (OCD) in the United Kingdom is estimated as 12.9 cases per 10 thousand full-time workers each year[90]. One-year prevalence of occupational hand dermatitis, depending on the method of estimation, varies from 0.5-6.7% (medical examination) to 8.2-10.6% (questionnaire) in different populations[91].

In a study based on medical examination, 4.1% Polish farmers were diagnosed with occupational hand eczema[92]. One in three of those who stated to have hand dermatitis ever, and one in five with wrist and forearm dermatitis reported on exacerbations of dermatitis due to substances present at workplace[85]. Irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD) contribute to most cases of OCD. Different proportions of ICD and ACD are reported in studied populations - frequency of ICD varies from 32% (USA) to 71% (Australia)[89]. The differences might reflect the diagnostic routines (most importantly the use and extensiveness of patch tests).

Final remarks

The major disadvantage of available epidemiological studies of diseases from eczema and dermatitis spectrum is that they depend on clinical symptoms, which are frequently difficult to properly classify even by an experienced clinician, as clinical features and pathomechanisms of various types of eczema overlap to an extent making clear-cut differentiations virtually impossible. Studies based on self-administered questionnaires, are even more susceptible to bias as conclusions are built based upon patient's own opinions and interpretations. Furthermore, various types of eczema may co-exist, while most researchers and doctors rest satisfied with a first diagnosis established. To acquire reliable data on the epidemiology of various types of dermatitides, better studies are needed in the future based on well-defined criteria that would enable accurate differentiation between analysed diseases. Specific requirements for such studies have been recently discussed elsewhere[93].

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