Global variations in prevalence of eczema symptoms in children from ISAAC Phase Three

Joseph A. Odhiambo, MMed,[a] Hywel C. Williams, PhD,[b] Tadd O. Clayton, MSc,[c] Colin F. Robertson, MD,[d] M. Innes Asher, MBChB,[c] and the ISAAC Phase Three Study Group* *Nairobi, Kenya, Nottingham, United Kingdom, Auckland, New Zealand, and Melbourne, Australia*

Background: In 1999, The International Study of Asthma and Allergies in Childhood (ISAAC) Phase One reported the prevalence of eczema symptoms in 715,033 children from 154 centers in 56 countries by using standardized epidemiologic tools.

Objective: To update the world map of eczema prevalence after 5 to 10 years (ISAAC Phase Three) and include additional data from over 100 new centers.

Methods: Cross-sectional surveys using the ISAAC questionnaire on eczema symptoms were completed by adolescents 13 to 14 years old and by parents of children 6 to 7 years old. Current eczema was defined as an itchy flexural rash in the past 12 months and was considered severe eczema if associated with 1 or more nights per week of sleep disturbance.

Results: For the age group 6 to 7 years, data on 385,853 participants from 143 centers in 60 countries showed that the prevalence of current eczema ranged from 0.9% in India to 22.5% in Ecuador, with new data showing high values in Asia and Latin America. For the age group 13 to 14 years, data on 663,256 participants from 230 centers in 96 countries showed prevalence values ranging from 0.2% in China to 24.6% in Columbia with the highest values in Africa and Latin America. Current eczema was lower for boys than girls (odds ratio, 0.94 and 0.72 at ages 6 to 7 years and 13 to 14 years, respectively).

Conclusion:ISAAC Phase Three provides comprehensive global data on the prevalence of eczema symptoms that is essential for public health planning. New data reveal that eczema is a disease of developing as well as developed countries. (J Allergy Clin Immunol 2009;124:1251-8.)

Key words: *Eczema, prevalence, global, children, ISAAC, sex*

Estimating the prevalence of eczema is important for several reasons including monitoring disease burden, documenting changing trends, and understanding possible causes by contrasting prevalence within and between countries. Atopic eczema (or atopic dermatitis) is the most common form of eczema in childhood. Atopic eczema manifests as a chronic, relapsing itchy rash that usually starts in early life and, in many children, wanes in severity later in childhood.[1,2] Not everyone with atopic eczema is truly atopic in terms of demonstrating a specific IgE response to common allergens, especially in developing countries, where helminth infestations are common.[3] Yet the term "atopic eczema" or "atopic dermatitis" is still commonly used to define the phenotype of poorly demarcated skin inflammation with surface changes (such as scaling or lichenification), a predilection for the flexures (such as the insides of the elbows and backs of the knees[4]), and association with a personal or family history of asthma and/or hay fever. Severe eczema in childhood and persistence into adult life are associated with considerable direct costs.[5] Constant itching, which can lead to sleep deprivation, as well as the stigmata associated with visible skin disease can have a major impact on quality of life for such individuals.[6-10] The International Study of Asthma and Allergies in Childhood (ISAAC) was designed to allow comparisons of the prevalence of symptoms of asthma, rhinitis, and eczema between populations in different countries through use of standardized epidemiologic tools.[11] The prevalence of symptoms of eczema in ISAAC Phase One (1992-1997) estimated in 154 centers in 56 countries (715,033 children) varied widely throughout the world. The 1-year period prevalence of eczema symptoms estimated by ISAAC Phase One previously published in this journal ranged from 0.6% to 20.5% of the population.[12] Trends in eczema symptoms over a 5-year to 10-year period in just under half a million adolescents and children who participated in both ISAAC Phase One and Three indicate that the prevalence of eczema is rising, especially in younger children,[13] suggesting that environmental factors could be playing a key role in determining disease expression. This article describes global prevalence data on eczema symptoms in more than a million adolescents and children from ISAAC Phase Three (1999-2004). ISAAC Phase Three provides new data from Phase One centers and includes more than 100 new centers in more than 40 countries not previously studied, thereby providing recent and comprehensive global data that are essential for public health planning.

From [a]the Centre for Respiratory Diseases Research, Kenya Medical Research Institute, Nairobi; [b]the Centre for Evidence Based Dermatology, University of Nottingham; [c]the Department of Paediatrics: Child and Youth Health, Faculty of Medical and Health Sciences, University of Auckland; and [d]the Murdoch Children's Research Institute, Melbourne.

*Members listed in this article's Appendix E1 in the Online Repository at www.jacionline.org.

Currently the main source of funding for the ISAAC International Data Centre (IIDC) is the BUPA Foundation. Many New Zealand funding bodies have contributed support for the IIDC during the periods of fieldwork and data compilation (the Health Research Council of New Zealand, the Asthma and Respiratory Foundation of New Zealand, the Child Health Research Foundation, the Hawke's Bay Medical Research Foundation, the Waikato Medical Research Foundation, Glaxo Wellcome New Zealand, the NZ Lottery Board, and Astra Zeneca New Zealand). Glaxo Wellcome International Medical Affairs supported the regional coordination for Phase Three and the IIDC.

Disclosure of potential conflict of interest: T. O. Clayton and M. I. Asher have received research support from the BUPA Foundation (UK). C. F. Robertson has received research support from the National Health Medical Research Council. J. A. Odhiambo and H. C. Williams have declared that they have no conflict of interest.

Received for publication July 2, 2009; revised October 4, 2009; accepted for publication October 7, 2009.

Reprint requests: Tadd O. Clayton, MSc, Department of Paediatrics: Child and Youth Health Faculty of Medical and Health Sciences, University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. E-mail: t.clayton@auckland.ac.nz.

0091-6749/$36.00

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doi:10.1016/j.jaci.2009.10.009

Abbreviations used
OR: Odds ratio
ISAAC: International Study of Asthma and Allergies in Childhood

METHODS

ISAAC Phase Three used the same protocol, framework for registration of participating centers, and sampling as ISAAC Phase One.[12,14] Briefly, 2 age groups (6-7 and 13-14 years old) were chosen from a random sample of schools from defined geographical areas. A simple questionnaire with questions related to symptoms of wheezing, rhinoconjunctivitis, and eczema was completed by parents of the children and by the adolescents. Only the eczema data are reported and discussed here; the asthma and rhinoconjunctivitis results are reported separately.[15,16] Questionnaires were translated, if necessary, from English into the local language for both age groups. Translated questionnaires were back-translated into English by an independent person according to ISAAC translation guidelines to confirm that other languages used terms as equivalent as possible to the English version.[17] The full text of the questions concerning eczema symptoms is included in this article's Fig E1 in the Online Repository at www.jacionline.org. These questions on symptoms of eczema include both sensitive and specific questions that are repeatable and have reasonable content, construct, concurrent, and predictive validity.[12,18,19] The key outcome reported (current symptoms of eczema) is that of respondents who answered positively to the question, "Has your child/Have you had this itchy rash at any time in the past 12 months?" and answered positively to the question, "Has this itchy rash at any time affected any of the following places: the folds of the elbows, behind the knees, in front of the ankles, under the buttocks, or around the neck, ears or eyes?" Current eczema associated with sleep disturbance 1 or more nights per week (question 6) was used as a surrogate of severe eczema. To explore the effects of disease labeling, we also report the results for lifetime "eczema" (question 7) or the appropriate local term.

Centers were expected to obtain ethics approval and parental consent according to the requirements of the country, and to fund their own study.

Data analysis

Centers were examined for adherence to protocol, and only centers that met ISAAC standards were included in analyses. The same approach to data analysis in ISAAC Phase One[12] was used in Phase Three. All data submitted to the ISAAC International Data Center were checked for coding errors, omissions, and inconsistencies and were corrected with the assistance of collaborators. Symptom prevalence values in each center were calculated by dividing the number of positive responses to each question by the number of completed questionnaires. Odds ratios and associated 95% CIs were calculated by using logistic regression. All analyses were carried out with SAS (version 9; SAS Institute Inc, Cary, NC).

RESULTS

For the age group 6 to 7 years, data from 421,543 participants in 165 centers (65 countries), and for the age group 13 to 14 years, data for 814,837 participants in 242 centers (98 countries) were submitted to the ISAAC International Data Centre for analyses. Adherence to the ISAAC Protocol was assessed, and centers that had not included the eczema questionnaire or had serious deviations from protocol were excluded from the analyses (22 centers from 17 countries with 35,690 participants for the age group 6-7 years and 12 centers from 8 countries with 151,581 participants for the age group 13-14 years). For the age group 6 to 7 years, there were 385,853 participants from 143 centers in 60 countries, and for the age group 13 to 14 years, there were 663,256 participants from 230 centers in 96 countries. Generally high response rates were achieved (age group 6-7 years, 41% of centers registered response rates of 90% to 100%, 31% of 80% to 89%, 17% of 70% to 79%, and 11% of 60% to 70%; age group 13-14 years, 65% of centers registered response rates of 90% to 100%, 25% of 80% to 89%, and 10% of 70% to 79%). The response rate varied between regions from 77% (North America) to 94% (Africa) in the age group 6 to 7 years, and from 78% (North America) to 94% (Eastern Mediterranean) in the age group 13 to 14 years. Details of the languages used are reported elsewhere.[16]

Fig 1, *A and B*, shows color-coded world maps of the prevalence of current symptoms of eczema for children 6 to 7 and 13 to 14 years old, respectively. This article's Fig E2, *A and B,* in the Online Repository at www.jacionline.org presents similar maps illustrating the prevalence of symptoms of severe eczema. This article's Tables E1 and E2 in the Online Repository at www.jacionline.org include detailed results at a center level.

Range of prevalence of eczema

The prevalence of current eczema symptoms among the age group 6 to 7 years varied from 0.9% (Jodhpur, India) to 22.5% (Quito, Ecuador) (Fig 2, *A*). For the age group 13 to 14 years, the prevalence varied from 0.2% (Tibet, China) to 24.6% (Barranquilla, Colombia) (Fig 2, *B*). For symptoms of severe eczema, the prevalence varied from 0.0% (Hong Kong; Davangere, India; Kharkiv, Ukraine) to 4.9% (La Habana, Cuba) for the age group 6 to 7 years and from 0.0% (Ho Chi Minh City, Vietnam; Borivali, India) to 5.8% (Marrakech, Morocco) for the age group 13 to 14 years (see this article's Fig E3, *A and B,* and Fig E4, *A and B,* in the Online Repository at www.jacionline.org). For lifetime reported "eczema," the prevalence varied from 1.2% (Panevezys, Lithuania; Cuernavaca, Mexico) to 38.6% (Linköping, Sweden) for the age group 6 to 7 years and from 0.8% (Ciudad Victoria, Mexico) to 48.3% (Linköping) for the age group 13 to 14 years (see this article's Fig E5, *A and B,* in the Online Repository at www.jacionline.org).

Global pattern of eczema, age group 6 to 7 years

Higher prevalence values for current symptoms of eczema (≥15%) were found in centers from 5 of 9 world regions including Asia-Pacific (centers in Thailand), Latin America (centers in Colombia, Cuba, Ecuador, Honduras, and Nicaragua), Northern and Eastern Europe (1 center in Sweden), Oceania (centers in Australia, New Zealand, and Niue), and Western Europe (1 center in the United Kingdom). Lower prevalence values (<5%) were found in centers in 6 of 9 regions including Asia-Pacific (centers in Hong Kong, Indonesia, and Vietnam), Eastern Mediterranean (centers in Iran, Malta, Pakistan, Sultanate of Oman, and the Syrian Arab Republic), Indian Subcontinent (centers in India), Latin America (centers in Argentina and Mexico), Northern and Eastern Europe (centers in Albania, Bulgaria, Croatia, Georgia, Hungary, Kyrgyzstan, Lithuania, and Ukraine), and Western Europe (centers in Greece and Spain). Overall, higher prevalence centers were generally more common in Oceania, and lower prevalence centers were generally more common in the Indian Subcontinent, the Eastern Mediterranean region, and Northern and Eastern Europe (see this article's Fig E3, *A,* in the Online Repository at www.jacionline.org).

A broadly similar pattern was found for symptoms of severe eczema with higher prevalence centers more common in Oceania

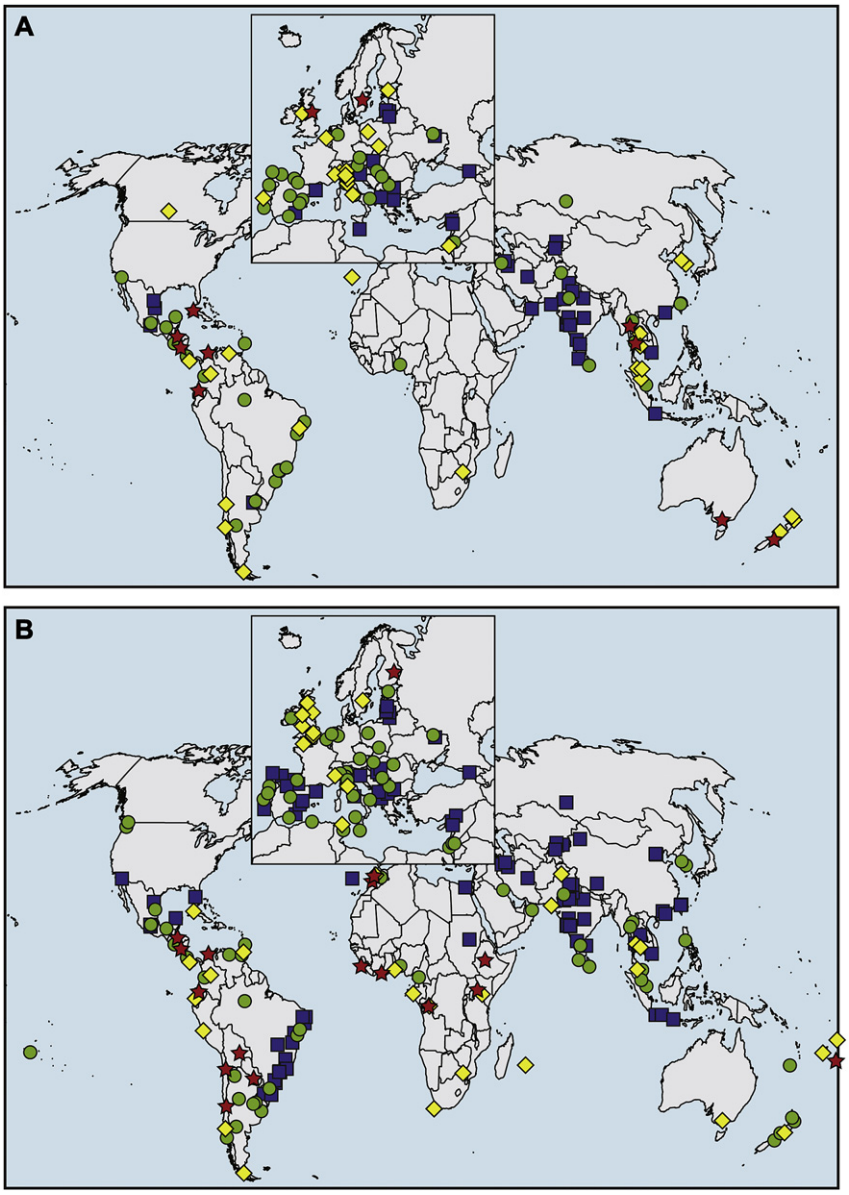

FIG 1. World maps showing prevalence of current symptoms of eczema for the age group 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. *Blue squares* indicate prevalence of less than 5%, *green circles* indicate prevalence of 5% to less than 10%, *yellow diamonds* indicate prevalence of 10% to less than 15%, and *red stars* indicate prevalence of 15% or more. Europe is shown in greater detail in the inset section.

and Latin America, and lower prevalence centers more common in the Indian Subcontinent and Northern and Eastern Europe.

For lifetime reported "eczema," there was less consistency across the world. Although Oceania and the Indian Subcontinent were again the regions which most commonly included high and low prevalence centers, respectively, there was a greater range of prevalence in those regions and in all other regions. Of those with lifetime reported "eczema," 31% had current eczema symptoms.

The proportion of boys studied varied among the centers from 38.2% to 66.1%, and the proportion of girls varied from 33.9% to 61.8%. When the data for all centers were combined, there was no clear pattern observed for the main outcome measures. Boys showed a lower prevalence of current symptoms of "eczema" (7.7% for boys and 8.2% for girls; odds ratio [OR], 0.94; 95% CI, 0.92-0.97; $P < .001$). In contrast, there was little difference in prevalence between boys and girls for symptoms of severe eczema (1.0% male, 1.1% female; OR, 0.97; 95% CI, 0.91-1.03; $P = .319$) and a slightly higher prevalence for boys for lifetime reported "eczema" (14.4% males, 14.1% females; OR, 1.02; 95% CI, 1.01-1.04; $P = .009$; see this article's Fig E6, *A-C*, in the Online Repository at www.jacionline.org).

Global pattern of eczema, age group 13 to 14 years

Higher prevalence values (≥15%) were found in 4 of 9 regions including Africa (centers in Congo, Cote d'Ivoire, Ethiopia,

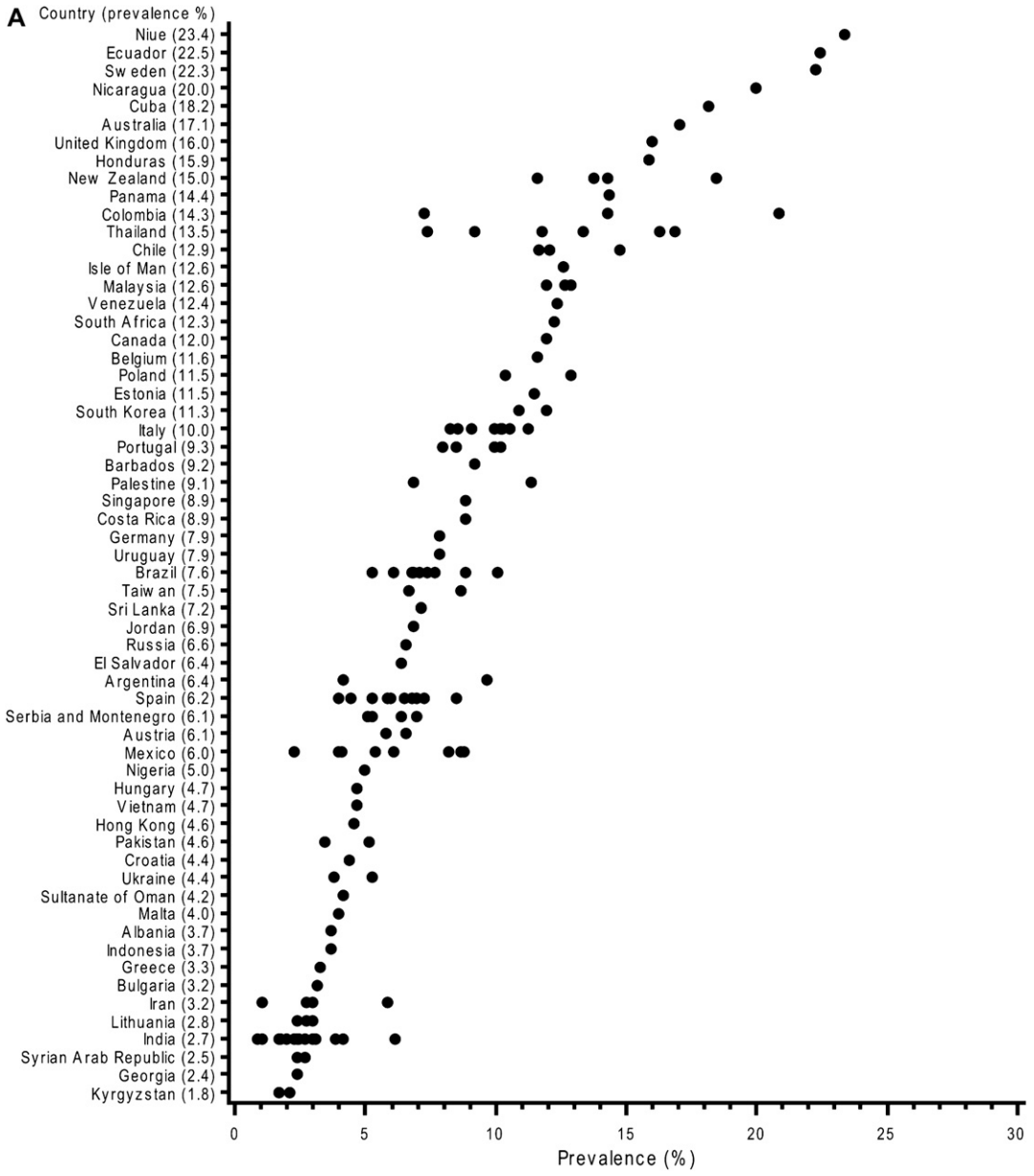

FIG 2. Ranked prevalence plots of current symptoms of eczema for the age group 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. Countries are ordered by average prevalence.

Kenya, Morocco, and République de Guinée), Latin America (centers in Bolivia, Chile, Colombia, Ecuador, Honduras, Nicaragua, and Paraguay), Northern and Eastern Europe (1 center in Finland), and Oceania (centers in Kingdom of Tonga and Niue).

Lower prevalence values (<5%) were found in 8 of 9 regions including Africa (1 center in Sudan), Asia-Pacific (centers in China, Hong Kong, Indonesia, Taiwan, Thailand, and Vietnam), Eastern Mediterranean (centers in Egypt, Iran, and the Syrian Arab Republic), Indian Subcontinent (centers in India), Latin America (centers in Brazil and Mexico), North America (1 center in the United States), Northern and Eastern Europe (centers in Albania, Bulgaria, Croatia, Former Yugoslav Republic of Macedonia, Georgia, Hungary, Kyrgyzstan, Latvia, Lithuania, Russia, Serbia and Montenegro, and Ukraine), and Western Europe (centers in Italy, Portugal, and Spain).

In general, higher prevalence centers are generally more common in Africa and Oceania, and lower prevalence centers are generally more common in the Indian Subcontinent and Northern and Eastern Europe (see this article's Fig E3, *B*, in the Online Repository at www.jacionline.org).

A generally similar pattern was found for symptoms of severe eczema, with higher prevalence centers more common in Africa and Oceania, and lower prevalence centers more common in the Indian Subcontinent and Northern and Eastern Europe.

For lifetime reported "eczema," there was again less consistency across the world. Oceania and Africa are the regions where high prevalence centers were most common. However, there was a difference in ranking of regions for low prevalence because North America was the region where low prevalence centers were most common. This contrasts with the

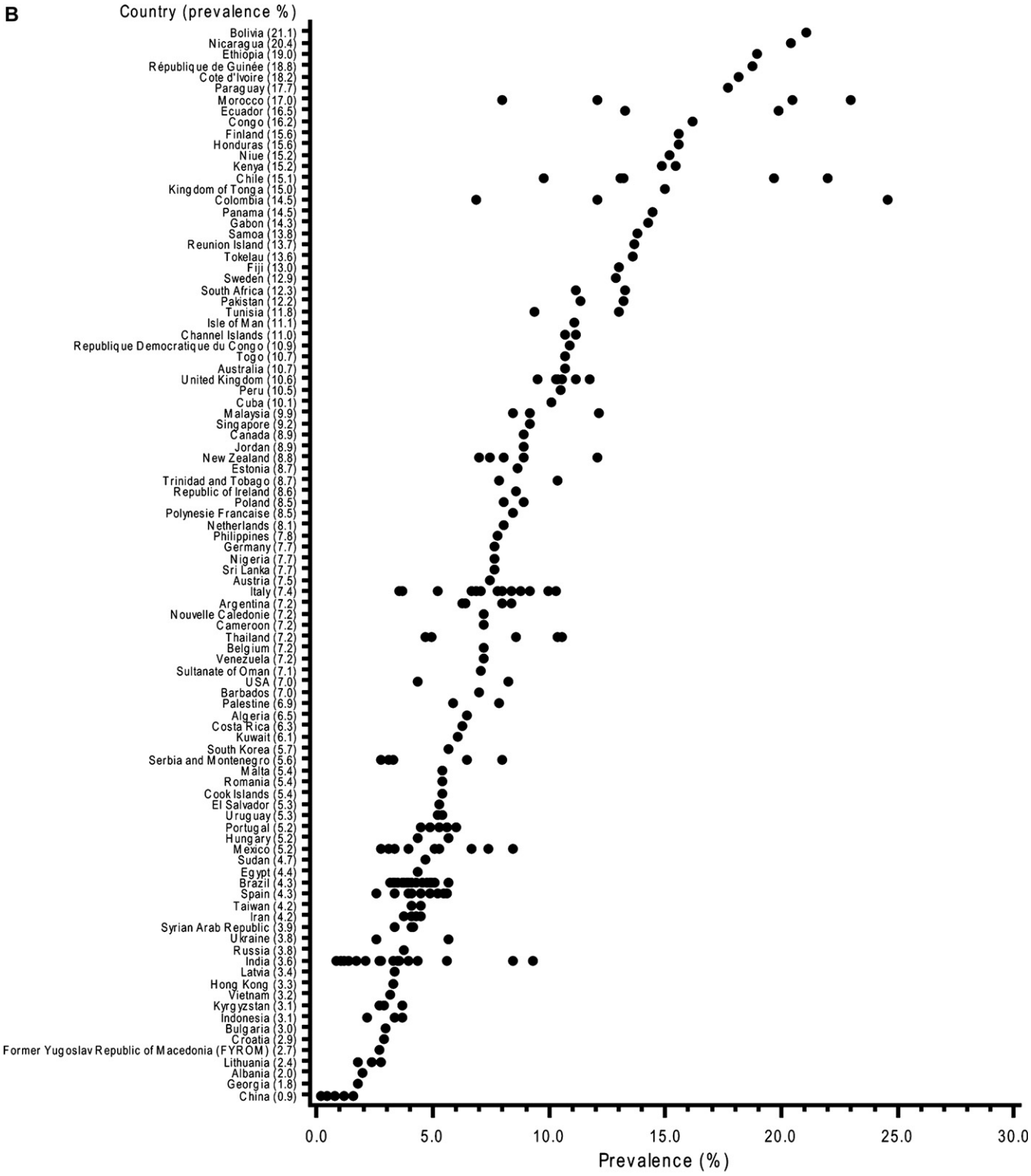

FIG 2. (*Continued*)

ranking for current symptoms of eczema and severe eczema, for which North America showed an intermediate range of prevalence. There was again a greater range of prevalence for lifetime reported "eczema" within all other regions than for symptoms of current eczema and severe eczema. Of those with lifetime reported "eczema," 26% had current eczema symptoms.

The proportion of boys studied varied among the centers from 18.7% to 71.4%, and the proportion of girls varied from 28.6% to 81.3%. When the data for all centers were combined, a clear

pattern for lower prevalence among boys emerged for age 13 to 14 years. Male adolescents showed a lower prevalence of current symptoms of eczema (6.2% for boys and 8.3% for girls; OR, 0.72; 95% CI, 0.71-0.74; $P < .001$). Similar differences in prevalence between boys and girls were found for symptoms of severe eczema (0.9% boys, 1.4% girls; OR, 0.63; 95% CI, 0.61-0.66; $P < .001$) and lifetime reported "eczema" (11.4% boys, 14.1% girls; OR, 0.78; 95% CI, 0.77-0.79; $P < .001$; see this article's Fig E6, *D-F*, in the Online Repository at www.jacionline.org).

DISCUSSION

Main findings

This is the largest study to date that estimates the prevalence of eczema symptoms in children and adolescents, and it contains over twice as much data and increased global coverage when compared with ISAAC Phase One. For the age group 6 to 7 years, Phase Three includes a further 87 centers from 27 new countries, and for the age group 13 to 14 years, a further 133 centers from 43 new countries. The increased coverage provides valuable new insights into the global variation of symptoms of eczema. As in Phase One, the results show large variations in prevalence of symptoms in both the 6 to 7–year and 13 to 14–year age groups. Additional centers available in Phase Three provide interesting new information.

For the age group 6 to 7 years, there was an increase in the number of participating centers in Phase Three for all regions except North America and Oceania, with large increases in the Eastern Mediterranean region, Latin America, Northern and Eastern Europe, and Western Europe. Many of the new centers have a relatively high prevalence of current symptoms of eczema, and this is reflected in the region summary values for Phase One and Phase Three. All regions except Northern and Eastern Europe and Western Europe have higher summary prevalence values in Phase Three than in Phase One. The global summary prevalence value for Phase Three (7.9%) is also higher than the comparable value for Phase One (6.1%).[12]

For the age group 13 to 14 years, there was an increase in the number of participating centers in Phase Three for all regions except Western Europe, with large increases in Africa, Asia-Pacific, the Eastern Mediterranean region, the Indian Subcontinent, Latin America, and Northern and Eastern Europe. In contrast with the age group 6 to 7 years, many of the new centers have a relatively low prevalence of current symptoms of eczema, and this is reflected in the region summary values for Phase One and Phase Three. Only Asia-Pacific, the Indian Subcontinent, and Latin America have higher summary prevalence values in Phase Three than in Phase One. The global summary prevalence value for Phase Three (7.3%) is also lower than the comparable value for Phase One (8.8%).[12]

Sex differences in eczema symptoms were found in ISAAC Phase One in both age groups.[12] In Phase Three, our finding of a decreased risk of eczema in boys was strongest in the age group 13 to 14 years and was consistent regardless of how eczema symptoms were defined (current, ever, or severe). Recent studies showing similar findings of lower prevalence among boys have been reported from Singapore,[20] Spain,[21] Japan,[22] Lebanon,[23] and Russia.[24] Possible explanations could include different genetic-environmental interactions, which become more prominent as children mature, or possibly misclassification of irritant contact dermatitis or allergic contact dermatitis (eg, from nickel earrings), which could be more common in adolescent girls.

Emerging patterns

For the age group 6 to 7 years, the key feature of the more comprehensive picture of global prevalence provided by ISAAC Phase Three compared with Phase One is the emergence of Latin America as a region of comparatively high prevalence of symptoms. This is particularly evident in Central America and the Northern part of South America, where new centers such as La Habana (Cuba), San Pedro Sula (Honduras), Managua (Nicaragua), Barranquilla (Colombia), and Quito (Ecuador) show prevalence values of more than 15%. A similar, if less pronounced, new area of high prevalence has emerged in Southeast Asia, where new and existing centers in Thailand show high or moderate to high prevalence values. For the age group 13 to 14 years, Latin America again emerges as a region of comparatively high prevalence compared with the corresponding results from Phase One. However, the distribution of new high prevalence centers is somewhat different from the age group 6 to 7 years, with some such as Santa Cruz (Bolivia) and Calama (Chile) occurring further South in the South American continent. A more detailed analysis of time trends in eczema symptoms for those children who participated in both ISAAC Phase One and Phase Three is to be found elsewhere.[13]

Comparison with other studies

There are few other comparable studies that use a common methodology to examine prevalence of eczema or atopic dermatitis, either within or between countries. The prevalence patterns described in this article are broadly similar to those described in 25 countries that participated in the European Community Respiratory Health Survey, but that is where the similarity ends because that survey recorded lifetime prevalence of reported symptoms in adults age 27 to 56 years.[25] There have been surveys of children within countries that have shown a prevalence of atopic dermatitis of 6% in the United States,[26] a prevalence of 9.2% of eczema symptoms in Switzerland,[27] prevalence values of eczema symptoms of 7.3% (6-12 years) and 3.9% (12-15 years) in South Korea,[28] and prevalence values of examined eczema of 11.8% (6-7 years) and 10.5% (11-12 years) in Japan[29] and 6.4% in Italy.[30] For the studies occurring in countries that also participated in ISAAC, the prevalence values are broadly similar to those reported here in spite of significant differences in methodology in some cases.

Only 3 examples of studies between countries have been identified. A study primarily focused on lifetime prevalence of atopic dermatitis among children 7 to 8 years old in Greenland (14.0%)[31] contrasted the prevalence with that of a similar group in Denmark (22.9%). A study of 7-year-old children in Denmark, Germany, and Sweden in 1992 showed a prevalence of atopic dermatitis of 15.6% with some regional differences.[32] Another study reported in 1994 of 4353 children age 12 years living in defined areas in Wales, New Zealand, South Africa, and Sweden showed that a report of "eczema ever" was highest in Sweden (22.0%) and lowest in South Africa (11.1%), with prevalence values of 15.9% for both Wales and New Zealand.[33]

Strengths and weaknesses of the study

The major strengths of ISAAC Phase Three are the comprehensive world coverage with participation from all regions of the world and the well established standardized protocol that has been successfully applied by researchers with varying resources and experience. ISAAC Phase One provided the first large-scale internationally comparable data regarding variation in symptoms of eczema throughout the world. Participation in ISAAC Phase Three was open to researchers who were able to obtain sufficient resources and who agreed to adhere to the protocol.[34] Centers were therefore not specifically selected to be representative of their country, and any attempt at such a generalization should be interpreted with considerable caution. This is particularly true of large countries with relatively few participating centers. The limited coverage in some regions was more prominent with respect to the age group 6 to 7 years. Many of the urban centers are from coastal areas, so the results may not be applicable to more central or rural areas. Phase Three has provided new information about parts of the world not previously studied in terms of eczema symptoms including new areas within Africa, Asia-Pacific, Latin America, and Oceania. New centers have revealed some interesting new patterns such as comparatively high prevalence in Africa and Latin America for the age group 6 to 7 years.

As in Phase One, the simple, standardized protocol used in Phase Three proved to be practical and feasible for investigators with widely varying resources and experience, resulting in a great deal of enthusiasm from investigators. A further important component of Phase Three was the rigorous data and methodology checks to ensure that the data from participating centers were complete and comparable.

For an international study such as ISAAC, translation of questionnaires is a key issue that may affect the validity of comparisons between centers, particularly when suitable local terminology is not available. To address this concern, all translations have been carried out by using detailed guidelines that include back-translation of the translated questionnaire to English.[34] All back-translations have been reviewed by members of the ISAAC Steering Committee, and data from specific questions have been excluded in some cases.[17] We acknowledge that some of the prevalence estimates based on translated questionnaires might not have been as precise as they needed to be for local public health planning,[35] although such estimates are still likely to be valid for comparisons of patterns between countries.[17] In low-income settings in which other itchy skin conditions such as scabies are common, it is possible that resulting confusion may have contributed to higher eczema estimates.

Public health and research implications

This report shows that eczema is common in most countries and will be competing for meager resources in poorer countries. This scenario has important public health implications related to priority setting, costs, advocacy, and research. It is essential in the next phase that eczema research is focused on establishing better understanding of key environmental risk factors for eczema that could be modified as part of public health intervention in wealthy and poorer countries, especially because eczema may be prevented to some degree.[36] ISAAC Phase Three included an optional environmental questionnaire that addressed a range of putative risk and protective factors.[37] Publications presenting the results of analyses of these factors are in preparation or have recently been published.[38-40]

We thank the children and parents who participated in ISAAC Phase Three, the school staff for their assistance and help with coordination, the Phase Three principal investigators and their colleagues, and the many funding bodies throughout the world that supported the individual ISAAC centers and collaborators and their meetings.

Clinical implications: Data on eczema symptoms from more than a million children in 97 countries show that eczema (atopic dermatitis) is a major problem in developing as well as developed countries.

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APPENDIX E1

ISAAC PHASE THREE STUDY GROUP

ISAAC Steering Committee

N. Aït-Khaled* (International Union Against Tuberculosis and Lung Diseases, Paris, France); H. R. Anderson (Division of Community Health Sciences, St Georges, University of London, United Kingdom); M. I. Asher (Department of Paediatrics: Child and Youth Health, Faculty of Medical and Health Sciences, University of Auckland, New Zealand); R. Beasley* (Medical Research Institute of New Zealand, Wellington); B. Björkstén* (Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden); B. Brunekreef (Institute of Risk Assessment Science, Universiteit Utrecht, The Netherlands); J. Crane (Wellington Asthma Research Group, Wellington School of Medicine, New Zealand); P. Ellwood (Department of Paediatrics: Child and Youth Health, Faculty of Medical and Health Sciences, University of Auckland, New Zealand); C. Flohr (Department of Paediatric Allergy & Dermatology, St John's Institute of Dermatology, St Thomas' Hospital, London, United Kingdom); S. Foliaki* (Centre for Public Health Research, Massey University, Wellington, New Zealand); F. Forastiere (Department of Epidemiology, Local Health authority Rome, Italy); L. García-Marcos (Respiratory Medicine and Allergy Units, "Virgen de la Arrixaca" University Children's Hospital, University of Murcia, Spain); U. Keil* (Institut für Epidemiologie und Sozialmedizin, Universität Münster, Germany); C. K. W. Lai* (Department of Medicine and Therapeutics, Chinese University of Hong Kong, SAR China); J. Mallol* (Department of Paediatric Respiratory Medicine, University of Santiago de Chile); E. A. Mitchell (Department of Paediatrics: Child and Youth Health, Faculty of Medical and Health Sciences, University of Auckland, New Zealand); S. Montefort* (Department of Medicine, University of Malta), J. Odhiambo* (Centre for Respiratory Diseases Research, Kenya Medical Research Institute, Nairobi); N. Pearce (Centre for Public Health Research, Massey University, Wellington, New Zealand); C. F. Robertson (Murdoch Children's Research Institute, Melbourne, Australia); A. W. Stewart (Population Health, Faculty of Medical and Health Sciences, University of Auckland, New Zealand); D. Strachan (Division of Community Health Sciences, St Georges, University of London, United Kingdom); E. von Mutius (Dr von Haunerschen Kinderklinik de Universität München, Germany); S. K. Weiland† (Department of Epidemiology, University of Ulm, Germany); G. Weinmayr (Institute of Epidemiology, University of Ulm, Germany); H. Williams (Centre for Evidence Based Dermatology, Queen's Medical Centre, University Hospital, Nottingham, United Kingdom); G. Wong (Department of Paediatrics, Prince of Wales Hospital, Hong Kong, SAR China).

*Regional coordinators.

†Deceased.

ISAAC International Data Center

M. I. Asher, T. O. Clayton, P. Ellwood, E. A. Mitchell, Department of Paediatrics: Child and Youth Health, and A. W. Stewart, Population Health, Faculty of Medical and Health Sciences, University of Auckland, New Zealand.

ISAAC Phase Three Principal Investigators

Albania: A. Priftanji* (Tiranë); Algeria: B. Benhabylès (Wilaya of Algiers); Argentina: C. E. Baena-Cagnani* (Córdoba), C. D. Crisci (Rosario City), M. Gómez (Salta), G. E. Zabert (Neuquén); Australia: C. F. Robertson* (Melbourne); Austria: G. Haidinger* (Kärnten, Urfahr-Umgebung); Barbados: M. E. Howitt* (Barbados); Belgium: J. Weyler (Antwerp); Bolivia: R. Pinto-Vargas* (Santa Cruz); Brazil: C. d. S. D. Bernhardt (Itajaí), W. G. Borges (Brasília), P. A. M. Camargos (Belo Horizonte), M. d. S. Cardoso (Manaus Amazonas), A. J. L. A. Cunha (Nova Iguaçu), G. B. Fischer (Porto Alegre), J. M. Motta (Aracaju), A. P. Neto (Passo Fundo), F. J. Passos (Maceió), A. C. Pastorino (São Paulo West), N. Rosário (Curitiba), A. Silva (Caruaru), D. Solé* (Rural Santa Maria, Santa Maria, São Paulo), N. Wandalsen (Santo Andre), M. de Britto (Recife), L. de Freitas Souza (Feira de Santana, Salvador, Vitória da Conquista); Bulgaria: T. Popov* (Sofia); Cameroon: C. Kuaban* (Yaounde); Canada: A. Ferguson (Vancouver), D. Rennie (Saskatoon); Channel Islands: R. Goulding (Jersey), P. Standring (Guernsey); Chile: P. Aguilar (South Santiago), L. Amarales (Punta Arenas), L. A. V. Benavides (Calama), M. A. Calvo (Valdivia), A. Contreras (Chiloe); China: Y.-Z. Chen* (Beijing, Tong Zhou), O. Kunii (Tibet), Q. Li Pan (Wulumuqi), N.-S. Zhong (Guangzhou); Colombia: G. Aristizábal (Bogotá), A. M. Cepeda* (Barranquilla), G. A. Ordoñez (Cali); Congo: J. M'Boussa (Brazzaville); Cook Islands: R. Daniel* (Rarotonga); Costa Rica: M. E. Soto-Quirós* (Costa Rica); Cote d'Ivoire: B. N. Koffi* (Urban Cote d'Ivoire); Croatia: K. Lah Tomulic (Rijeka); Cuba: P. Varona Peréz* (La Habana); Ecuador: S. Barba* (Quito), C. Bustos (Guayaquil); Egypt: M. L. Naguib (Cairo); El Salvador: M. Figueroa Colorado* (San Salvador); Estonia: M.-A. Riikjärv* (Tallinn); Ethiopia: K. Melaku (Addis Ababa); Fiji: R. Sa'aga-Banuve (Suva); Finland: J. Pekkanen* (Kuopio County); Former Yugoslav Republic of Macedonia: E. Vlaski* (Skopje); Gabon: I. E. Hypolite* (Port-Gentil); Georgia: M. Gotua* (Kutaisi); Germany: U. Keil* (Münster); Greece: J. Tsanakas (Thessaloniki); Honduras: A. Bueso-Engelhardt* (San Pedro Sula); Hong Kong: Y. L. Lau (Hong Kong 6-7 y), G. Wong (Hong Kong 13-14 y); Hungary: Z. Novák (Szeged), G. Zsigmond* (Svábhegy); India: S. Awasthi (Lucknow), S. Bhave (Rasta Peth), J. Chhatwal (Ludhiana), N. M. Hanumante (Pune), K. C. Jain (Jodhpur), M. K. Joshi (Mumbai [16]), V. A. Khatav (Borivali), L. Kumar (Chandigarh), S. N. Mantri (Mumbai [29]), A. V. Pherwani (Mumbai [18]), S. Rego (Bangalore), M. Sabir (Bikaner), S. Salvi (Nagpur, Pimpri), G. Setty (Chennai [3]), S. K. Sharma (New Delhi [7]), V. Singh (Jaipur), T. U. Sukumaran (Kottayam), P. S. Suresh Babu (Davangere); Indonesia: C. B. Kartasasmita (Bandung), P. Konthen (Bali), W. Suprihati (Semarang); Iran: M.-R. Masjedi* (Birjand, Rasht, Tehran, Zanjan); Isle of Man: A. Steriu (Isle of Man); Italy: L. Armenio (Bari), L. Bisanti (Milano), E. Bonci (Cosenza), E. Chellini (Firenze), G. Ciccone (Torino), V. Dell'Orco (Colleferro-Tivoli), F. Forastiere* (Roma), C. Galassi (Emilia-Romagna), G. Giannella (Mantova), S. La Grutta (Palermo), M. G. Petronio (Empoli), S. Piffer (Trento), P. Sestini (Siena); Jordan: F. Abu-Ekteish (Amman); Kenya: F. O. Esamai (Eldoret), L. Ng'ang'a* (Nairobi); Kingdom of Tonga: S. Foliaki (Nuku'alofa); Kuwait: J. A. al-Momen (Kuwait); Kyrgyzstan: C. Imanalieva* (Balykchi, Bishkek), S. Sulaimanov (Jalalabat); Latvia: V. Svabe (Riga); Lithuania: J. Bojarskas (Panevezys, Siauliai), J. Kudzyte* (Kaunas); Malaysia: B. S. Quah (Kota Bharu), K. H. Teh (Alor Setar), J. de Bruyne* (Klang Valley); Malta: S. Montefort* (Malta); Mexico: M. Baeza-Bacab* (Mérida), M. Barragán-Meijueiro (Ciudad de México [3]), B. E. Del-Río-Navarro (Ciudad de México [1]), R. García-Almaraz (Ciudad Victoria), S. N. González-Díaz

(Monterrey), F. J. Linares-Zapién (Toluca), J. V. Merida-Palacio (Mexicali Valley), N. Ramírez-Chanona (Ciudad de México [4]), S. Romero-Tapia (Villahermosa), I. Romieu (Cuernavaca); Morocco: Z. Bouayad* (Benslimane, Boulmene, Casablanca, Marrakech); The Netherlands: R. Engels (The Netherlands); New Zealand: I. Asher* (Auckland), R. MacKay (Nelson), C. Moyes (Bay of Plenty), P. Pattemore (Christchurch), N. Pearce (Wellington); Nicaragua: J. F. Sánchez* (Managua); Nigeria: B. O. Onadeko (Ibadan); Niue: M. Magatogia (Niue Island); Nouvelle Caledonie: I. Annesi-Maesano (Nouvelle Caledonie); Pakistan: N. Mahmood* (Karachi), M. O. Yusuf (Islamabad); Palestine: N. El Sharif* (Ramallah), S. Mortaja (North Gaza); Panama: G. Cukier* (David-Panamá); Paraguay: J. A. Guggiari-Chase* (Asunción); Peru: P. Chiarella* (Lima); Philippines: F. Cua-Lim* (Metro Manila); Poland: A. Brêborowicz (Poznan), G. Lis* (Kraków); Polynesie Francaise: I. Annesi-Maesano (Polynesie Francaise); Portugal: M. L. Chiera (Coimbra), R. Câmara (Funchal), J. M. Lopes dos Santos (Porto), C. Nunes (Portimao), J. E. Rosado Pinto* (Lisbon); Republic of Ireland: L. Clancy (Republic of Ireland); Republique Democratique du Congo: J.-M. Kayembe (Kinshasa); Reunion Island: I. Annesi-Maesano* (Reunion Island); Romania: D. Deleanu (Cluj); Russia: E. G. Kondiourina (Novosibirsk); République de Guinée: O. Y. Sow (Conakry); Samoa: P. Fuimaono (Apia); Serbia and Montenegro: O. Adzovic (Podgorica), M. Hadnadjev (Novi Sad), E. Panic (Sombor), S. Zivanovic (Nis), Z. Zivkovic* (Belgrade); Singapore: D. Y. T. Goh (Singapore); South Africa: K. Voyi (Polokwane), H. J. Zar* (Cape Town); South Korea: H.-B. Lee* (Provincial Korea, Seoul); Spain: A. Arnedo-Pena (Castellón), J. Batlles-Garrido (Almeria), A. Blanco Quirós (Valladolid), R. M. Busquets (Barcelona), I. Carvajal-Urueña (Asturias), G. Garcia-Hernández (Madrid), L. García-Marcos* (Cartagena), C. González Díaz (Bilbao), F. Guillén-Grima (Pamplona), A. López-Silvarrey Varela (A. Coruña), M. M. Morales Suárez-Varela (Valencia), E. G. Pérez-Yarza (San Sebastián); Sri Lanka: K. D. Gunasekera* (Sri Lanka); Sudan: O. A. A. Musa (Khartoum); Sultanate of Oman: O. Al-Rawas* (Al-Khod); Sweden: H. Vogt (Linköping); Syrian Arab Republic: S. Mohammad* (Tartous), Y. Mohammad (Lattakia), K. Tabbah (Aleppo); Taiwan: J.-L. Huang* (Taipei), C.-C. Kao (Taoyuan); Thailand: A. Kongpanichkul (Nakorn Pathom), R. Nettagul (Chiangrai), T. Prasarnphanich (Chantaburi), J. Teeratakulpisarn (Khon Kaen), M. Trakultivakorn (Chiang Mai), P. Vichyanond* (Bangkok); Togo: O. Tidjani (Lome); Tokelau: T. Iosefa* (Tokelau); Trinidad and Tobago: M. A. Monteil (St Augustine, Tobago); Tunisia: M. Jerray (Sousse), F. Khaldi (Grand Tunis); United States: G. J. Redding (Seattle), H. H. Windom (Sarasota); Ukraine: V. Ognev* (Kharkiv, Rural Kharkiv); United Kingdom: H. R. Anderson* (North Thames, South Thames), J. B. Austin (Scotland), M. Burr (Wales), M. H. Shamssain (Sunderland), D. Strachan (Surrey/Sussex); Uruguay: D. Holgado* (Montevideo), M. C. Lapides (Paysandú); Venezuela: O. Aldrey* (Caracas); Vietnam: B. Vaên Cam (Ho Chi Minh City).

*National coordinator.

ISAAC Phase Three National Coordinators not identified above

Canada: M. Sears; Channel Islands: H. R. Anderson; Chile: V. Aguirre; Croatia: V. Ahel; Greece: C. Gratziou; Hong Kong: C. K. W. Lai; India: J. Shah; Indonesia: K. Baratawidjaja; Isle of Man: H. R. Anderson; Kingdom of Tonga: T. Fakakovi; The Netherlands: R. Otten; Nouvelle Caledonie: S. Barny; Polynesie Francaise: R. Chansin; Republic of Ireland: P. Manning; Republique Democratique du Congo: E. Bahati; Russia: R. M. Khaitov; Samoa: N. Tuuau-Potai; Singapore: B.-W. Lee; Sudan: A. El Sony; Sweden: L. Nilsson.

1. Has your child / Have you *ever* had an itchy rash which was coming and going for at least six months? Yes or No
2. Has your child / Have you had this itchy rash at any time *in the past 12 months?* Yes or No
3. Has this itchy rash *at any time* affected any of the following places: the folds of the elbows, behind the knees, in front of the ankles, under the buttocks, or around the neck, ears or eyes? Yes or No
4. At what age did this itchy rash first occur? Under 2 years, Age 2-4 years, or Age 5 or more (6-7 year age group only)
5. Has this itchy rash cleared completely at any time *during the past 12 months?* Yes or No
6. *In the past 12 months,* how often on average, has your child / have you been kept awake at night by this itchy rash? Never, Less than one night per week, or One or more nights per week
7. Has your child / Have you *ever* had eczema? Yes or No

FIG E1. Questions on eczema symptoms used in ISAAC Phase Three.

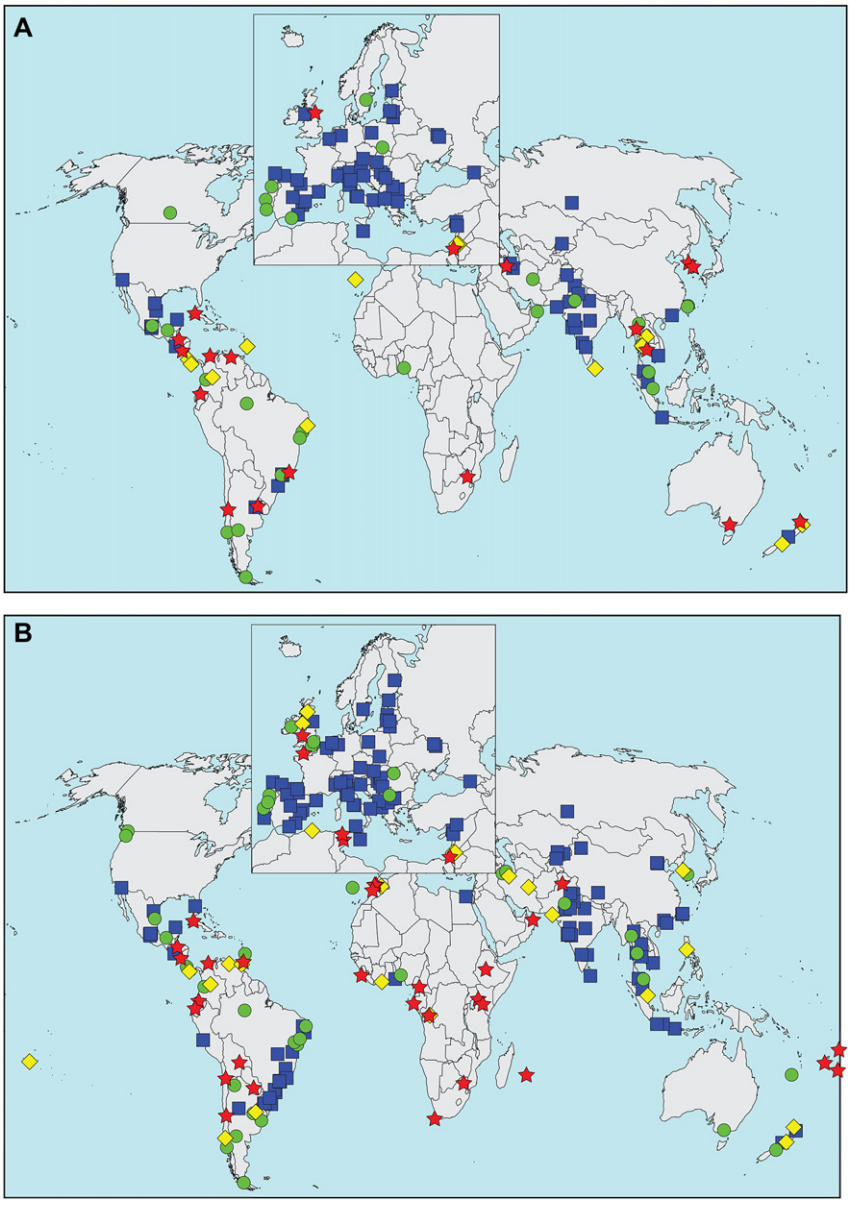

FIG E2. World maps showing prevalence of current symptoms of severe eczema for the age groups 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. *Blue squares* indicate prevalence of less than 1%, *green circles* indicate prevalence of 1% to less than 1.5%, *yellow diamonds* indicate prevalence of 1.5% to less than 2%, and *red stars* indicate prevalence of 2% or more. Europe is shown in greater detail in the inset section.

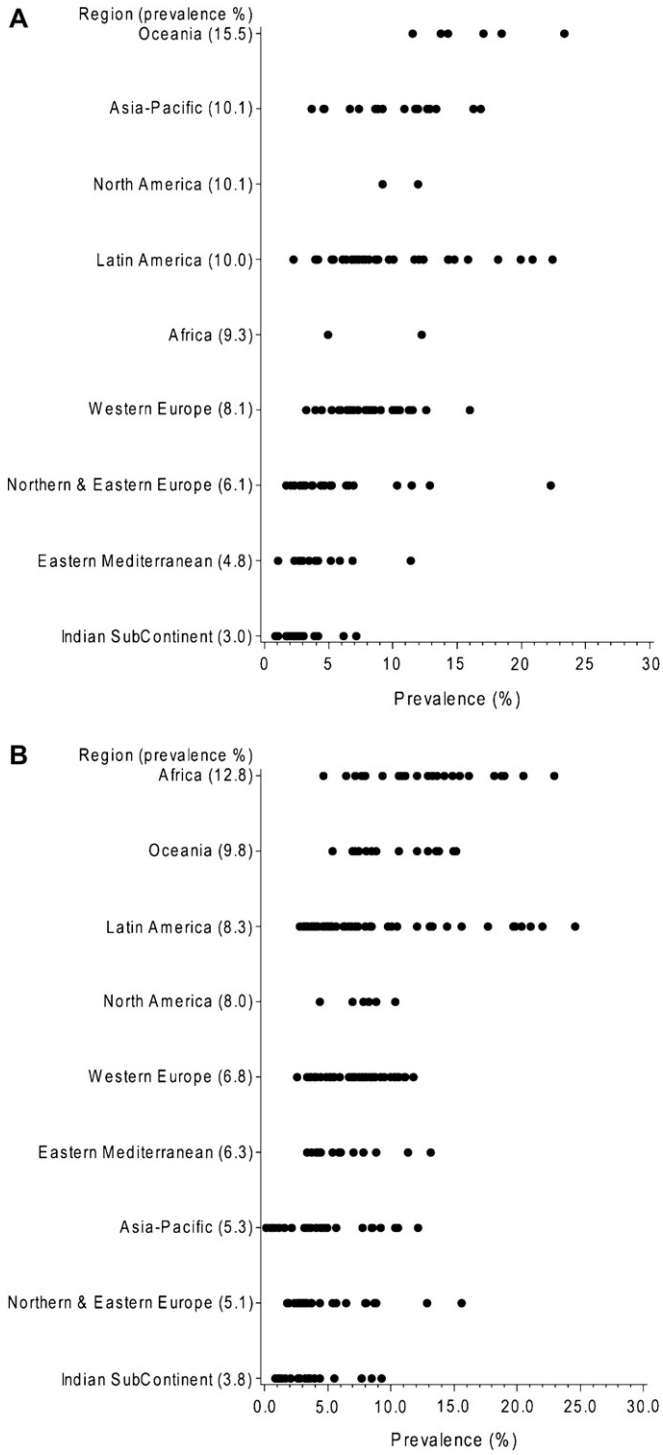

FIG E3. Ranked prevalence plots of current symptoms of eczema for the age groups 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. Regions are ordered by average prevalence.

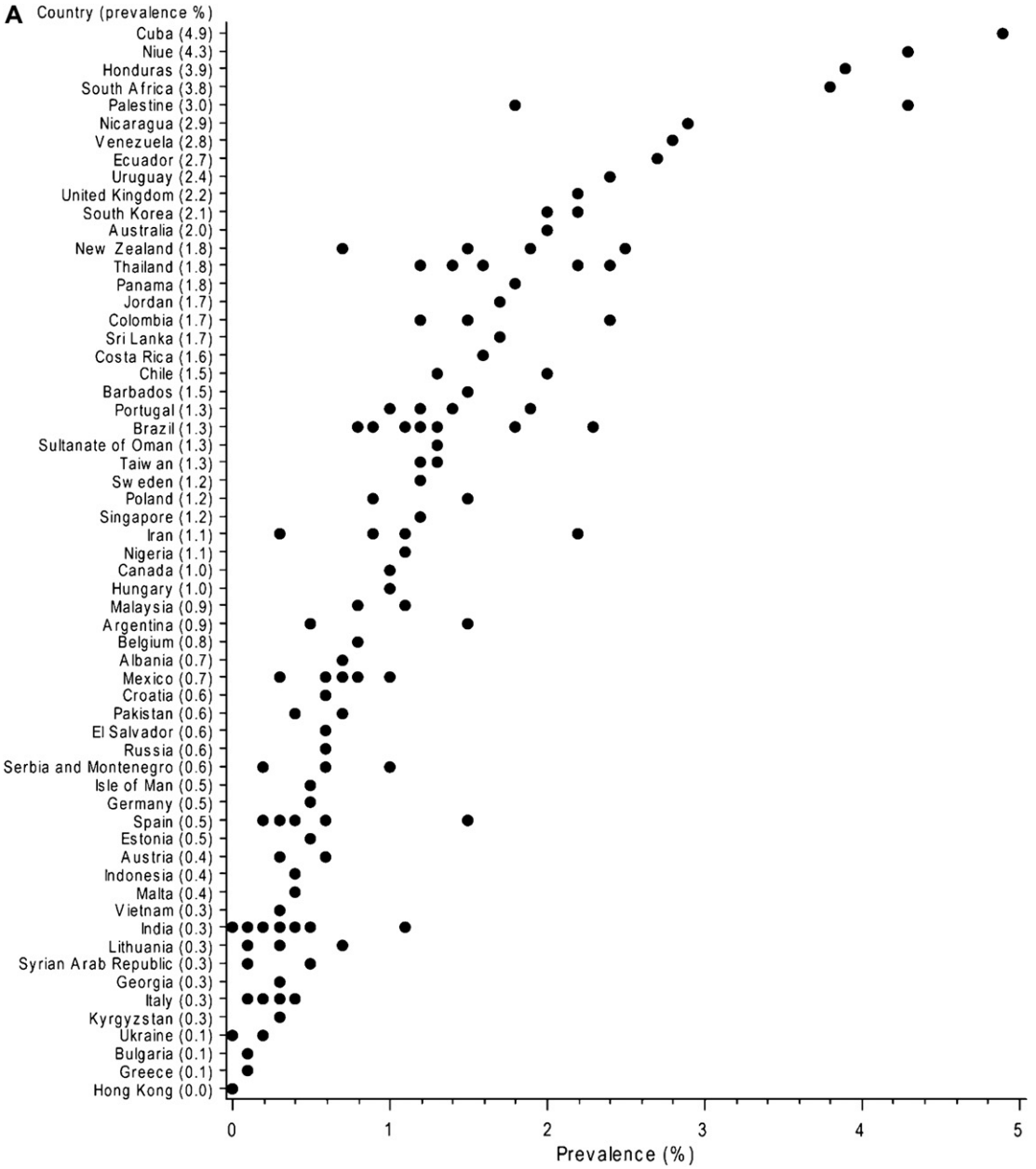

FIG E4. Ranked prevalence plots of current symptoms of severe eczema for the age groups 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. Countries are ordered by average prevalence.

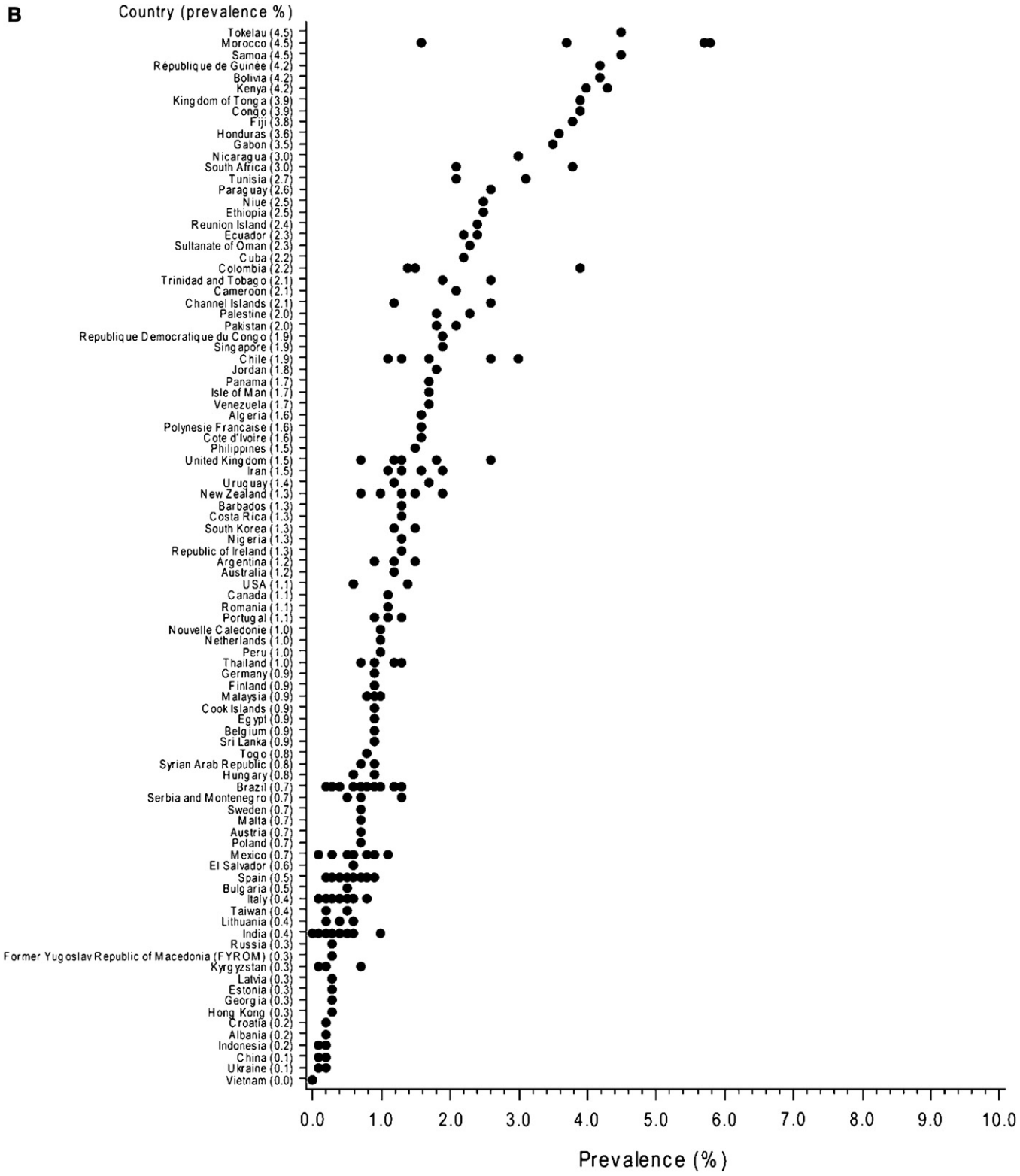

FIG E4. (*Continued*)

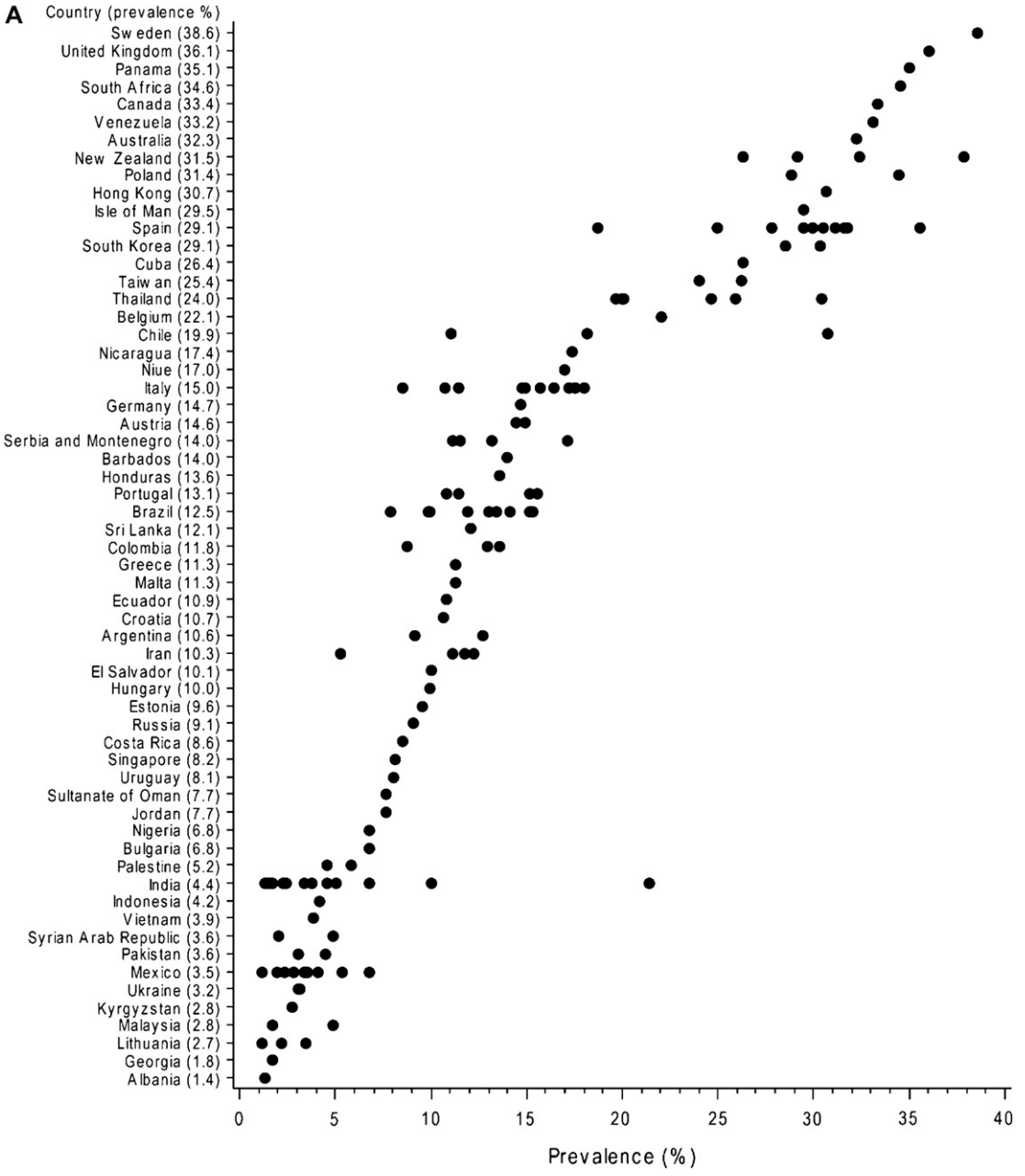

FIG E5. Ranked prevalence plots of lifetime reported "eczema" for the age groups 6 to 7 years **(A)** and 13 to 14 years **(B)**. Each *symbol* represents a center. Countries are ordered by average prevalence.

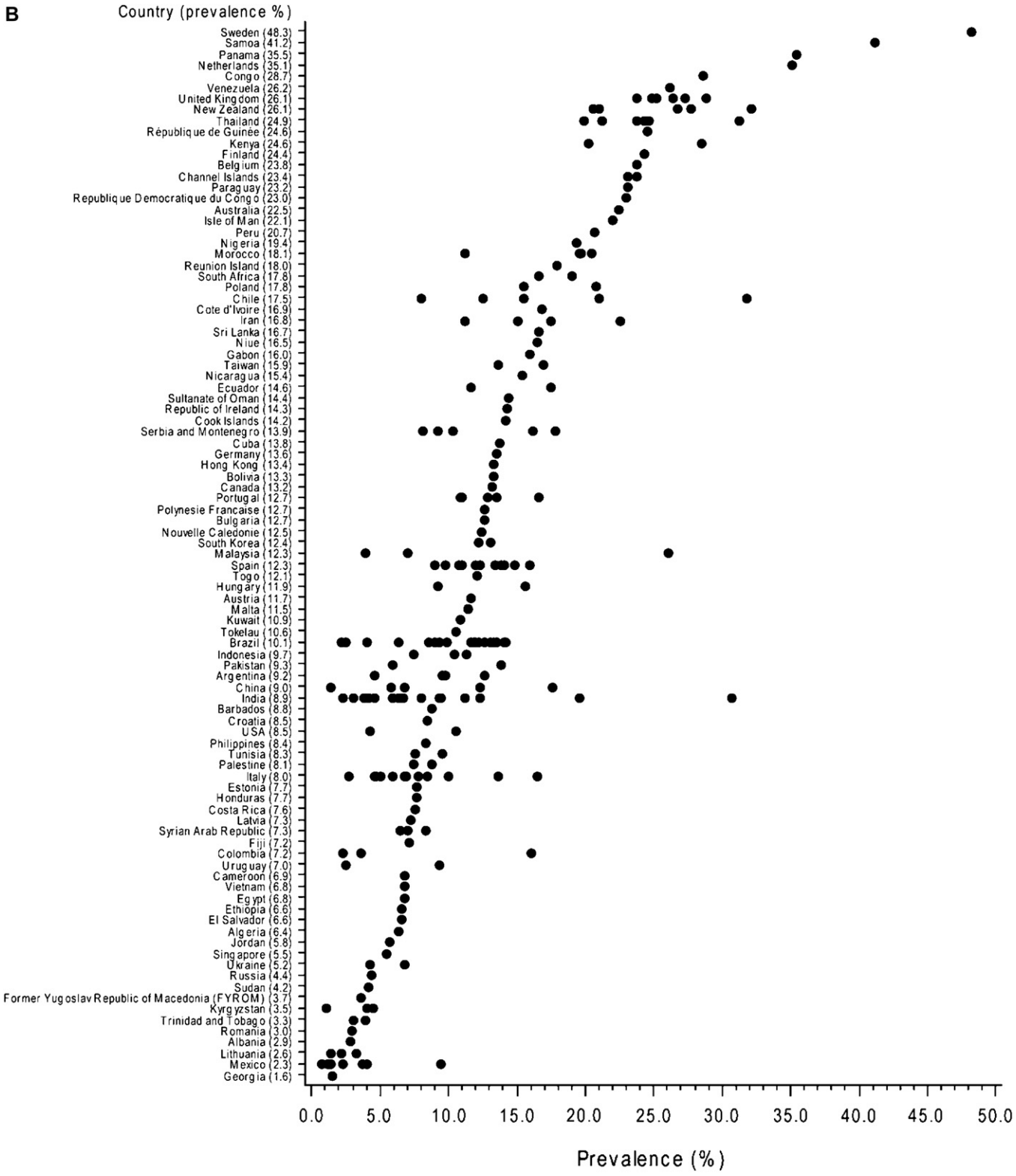

FIG E5. (*Continued*)

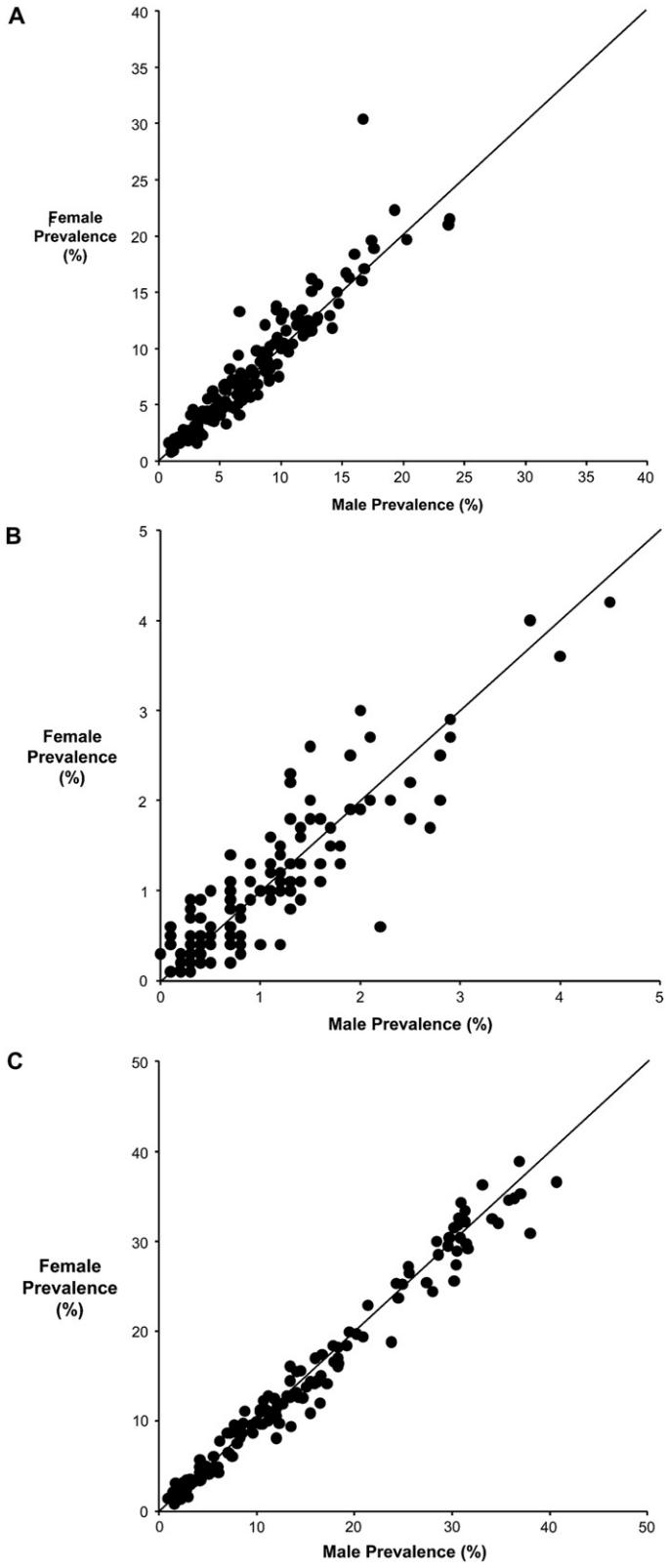

FIG E6. Scatter plots illustrating prevalence by sex for current symptoms of eczema **(A)**, current symptoms of severe eczema **(B)**, and lifetime reported "eczema" **(C)** for the age group 6 to 7 years, and current symptoms of eczema **(D)**, current symptoms of severe eczema **(E)**, and lifetime reported "eczema" **(F)** for the age group 13 to 14 years. Each *symbol* represents a center. The line of equality is shown on each plot.

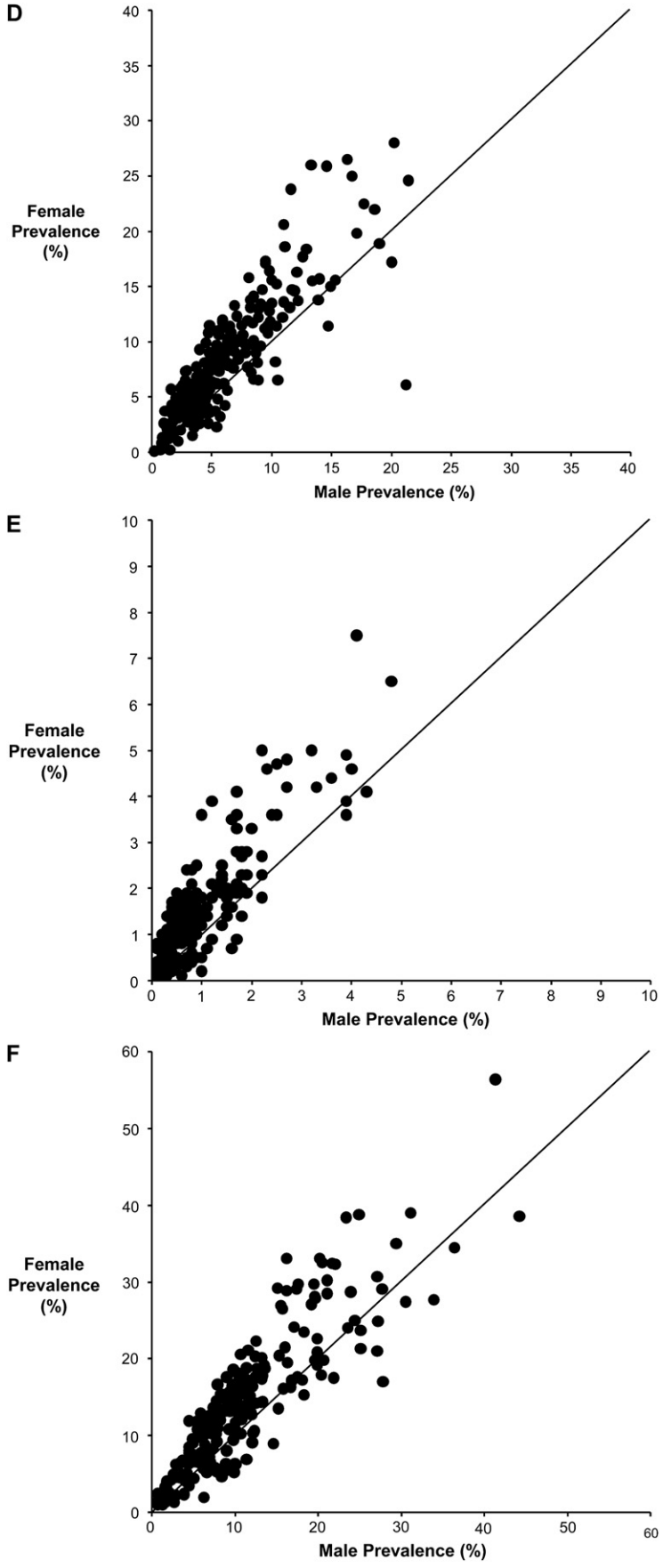

FIG E6. (*Continued*)

TABLE E1. Prevalence of symptoms of eczema, age group 6 to 7 years

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Africa								
Nigeria								
Ibadan	2002	2,396	119	5.0	26	1.1	163	6.8
South Africa								
Polokwane	2004	3,480	427	12.3	132	3.8	1,205	34.6
Region total	**2003**	**5,876**	**546**	**9.3**	**158**	**2.7**	**1,368**	**23.3**
Asia-Pacific								
Hong Kong								
Hong Kong	2001	4,448	206	4.6	0	0.0	1,365	30.7
Indonesia								
Bandung	2002	2,503	93	3.7	10	0.4	106	4.2
Malaysia								
Alor Setar	2002	3,786	482	12.7	29	0.8	69	1.8
Klang Valley	2001	3,044	365	12.0	25	0.8	150	4.9
Kota Bharu	2001	3,110	402	12.9	35	1.1	55	1.8
Country total	*2001*	*9,940*	*1,249*	*12.6*	*89*	*0.9*	*274*	*2.8*
Singapore								
Singapore	2001	5,389	482	8.9	63	1.2	440	8.2
South Korea								
Provincial Korea	2000	4,258	466	10.9	92	2.2	1,216	28.6
Seoul	2000	1,760	212	12.0	36	2.0	535	30.4
Country total	*2000*	*6,018*	*678*	*11.3*	*128*	*2.1*	*1,751*	*29.1*
Taiwan								
Taipei	2001	4,832	322	6.7	60	1.2	1,269	26.3
Taoyuan	2002	3,293	285	8.7	44	1.3	794	24.1
Country total	*2002*	*8,125*	*607*	*7.5*	*104*	*1.3*	*2,063*	*25.4*
Thailand								
Bangkok	2001	4,209	711	16.9	69	1.6	1,040	24.7
Chantaburi	2001	3,321	445	13.4	73	2.2	669	20.1
Chiang Mai	2001	3,106	507	16.3	75	2.4	809	26.0
Chiangrai	1995	1,677	154	9.2	23	1.4	330	19.7
Khon Kaen	1999	2,658	314	11.8	43	1.6	811	30.5
Nakorn Pathom	1996	1,821	135	7.4	21	1.2	364	20.0
Country total	*1999*	*16,792*	*2,266*	*13.5*	*304*	*1.8*	*4,023*	*24.0*
Vietnam								
Ho Chi Minh City	2001	3,879	181	4.7	13	0.3	152	3.9
Region total	**2000**	**57,094**	**5,762**	**10.1**	**711**	**1.2**	**10,174**	**17.8**
Eastern Mediterranean								
Iran								
Birjand	1996	2,693	75	2.8	29	1.1	143	5.3
Rasht	2001	3,057	92	3.0	27	0.9	361	11.8
Tehran	2001	3,008	32	1.1	9	0.3	371	12.3
Zanjan	1996	2,777	165	5.9	61	2.2	310	11.2
Country total	*1999*	*11,535*	*364*	*3.2*	*126*	*1.1*	*1,185*	*10.3*
Jordan								
Amman	2001	2,598	178	6.9	45	1.7	201	7.7
Malta								
Malta	2001	3,795	151	4.0	14	0.4	427	11.3
Pakistan								
Islamabad	2002	3,966	205	5.2	27	0.7	123	3.1
Karachi	2002	2,113	74	3.5	9	0.4	95	4.5
Country total	*2002*	*6,079*	*279*	*4.6*	*36*	*0.6*	*218*	*3.6*
Palestine								
North Gaza	2000	3,575	408	11.4	154	4.3	211	5.9
Ramallah	2000	3,754	260	6.9	66	1.8	172	4.6
Country total	*2000*	*7,329*	*668*	*9.1*	*220*	*3.0*	*383*	*5.2*
Sultanate of Oman								
Al-Khod	2001	4,130	175	4.2	54	1.3	320	7.7
Syrian Arab Republic								
Lattakia	2003	2,373	56	2.4	3	0.1	50	2.1

(Continued)

TABLE E1. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Tartous	2001	2,734	73	2.7	13	0.5	134	4.9
Country total	*2002*	*5,107*	*129*	*2.5*	*16*	*0.3*	*184*	*3.6*
Region total	**2000**	**40,573**	**1,944**	**4.8**	**511**	**1.3**	**2,918**	**7.2**
Indian Subcontinent								
India								
Bangalore	2003	2,959	116	3.9	11	0.4	68	2.3
Davangere	2002	3,043	32	1.1	0	0.0	206	6.8
Jaipur	2001	2,545	157	6.2	27	1.1	546	21.5
Jodhpur	2003	2,114	20	0.9	5	0.2	30	1.4
Kottayam*	2002	2,619	61	2.3			265	10.1
Lucknow	2002	3,000	76	2.5	11	0.4	55	1.8
Ludhiana	2002	3,225	77	2.4	11	0.3	46	1.4
Mumbai (16)	2003	2,865	53	1.8	4	0.1	48	1.7
Mumbai (18)	2002	4,862	118	2.4	9	0.2	123	2.5
Mumbai (29)	2002	1,833	31	1.7	5	0.3	27	1.5
Nagpur	2002	4,294	128	3.0	9	0.2	63	1.5
New Delhi (7)	2002	3,706	157	4.2	17	0.5	190	5.1
Pimpri	2002	3,838	104	2.7	19	0.5	177	4.6
Pune	2001	2,711	53	2.0	5	0.2	93	3.4
Rasta Peth	2001	3,147	97	3.1	11	0.3	120	3.8
Country total	*2002*	*46,761*	*1,280*	*2.7*	*144*	*0.3*	*2,057*	*4.4*
Sri Lanka								
Sri Lanka	2001	3,345	241	7.2	57	1.7	405	12.1
Region total	**2002**	**50,106**	**1,521**	**3.0**	**201**	**0.4**	**2,462**	**4.9**
Latin America								
Argentina								
Neuquén	2002	1,930	188	9.7	28	1.5	247	12.8
Rosario City	2001	2,952	123	4.2	14	0.5	272	9.2
Country total	*2002*	*4,882*	*311*	*6.4*	*42*	*0.9*	*519*	*10.6*
Brazil								
Aracaju	2003	2,443	246	10.1	27	1.1	243	9.9
Itajaí	2001	1,511	105	6.9	12	0.8	204	13.5
Maceió	2002	1,990	141	7.1	36	1.8	199	10.0
Manaus Amazonas	2002	3,011	233	7.7	40	1.3	459	15.2
Nova Iguaçu	2002	3,249	289	8.9	75	2.3	501	15.4
Salvador	2002	1,069	65	6.1	12	1.1	152	14.2
Santo Andre	2000	2,167	115	5.3	17	0.8	172	7.9
São Paulo	2002	3,047	207	6.8	27	0.9	398	13.1
São Paulo West	2002	3,312	245	7.4	40	1.2	398	12.0
Country total	*2002*	*21,799*	*1,646*	*7.6*	*286*	*1.3*	*2,726*	*12.5*
Chile								
Punta Arenas	2001	3,052	368	12.1	39	1.3	941	30.8
outh Santiago	2001	3,075	456	14.8	63	2.0	560	18.2
Valdivia	2001	3,183	373	11.7	42	1.3	353	11.1
Country total	*2001*	*9,310*	*1,197*	*12.9*	*144*	*1.5*	*1,854*	*19.9*
Colombia								
Barranquilla	2002	3,209	670	20.9	76	2.4	437	13.6
Bogotá	2002	3,256	466	14.3	49	1.5	286	8.8
Cali	2002	3,005	220	7.3	37	1.2	392	13.0
Country total	*2002*	*9,470*	*1,356*	*14.3*	*162*	*1.7*	*1,115*	*11.8*
Costa Rica								
Costa Rica	2002	3,234	287	8.9	52	1.6	279	8.6
Cuba								
La Habana	2002	1,803	329	18.2	89	4.9	476	26.4
Ecuador								
Quito	2003	3,055	688	22.5	81	2.7	334	10.9
El Salvador								
San Salvador	2003	1,365	87	6.4	8	0.6	138	10.1
Honduras								
San Pedro Sula	2002	1,907	304	15.9	74	3.9	260	13.6

(Continued)

TABLE E1. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Mexico								
Ciudad Victoria	2003	2,603	61	2.3	7	0.3	53	2.0
Ciudad de México (1)	2002	3,205	278	8.7	24	0.7	130	4.1
Ciudad de México (3)	2002	3,493	307	8.8	36	1.0	85	2.4
Cuernavaca	2002	2,579	103	4.0	9	0.3	30	1.2
Mexicali Valley	2003	2,568	138	5.4	21	0.8	93	3.6
Monterrey	2001	3,030	123	4.1	19	0.6	87	2.9
Mérida	2003	2,896	238	8.2	22	0.8	198	6.8
Toluca	2002	3,235	175	5.4	10	0.3	109	3.4
Villahermosa	2002	2,678	163	6.1	27	1.0	145	5.4
Country total	*2002*	*26,287*	*1,586*	*6.0*	*175*	*0.7*	*930*	*3.5*
Nicaragua								
Managua	2002	3,286	658	20.0	95	2.9	572	17.4
Panama								
David-Panamá	2001	2,942	424	14.4	52	1.8	1,034	35.1
Uruguay								
Paysandú	2002	1,512	119	7.9	36	2.4	122	8.1
Venezuela								
Caracas	2002	2,999	371	12.4	84	2.8	996	33.2
Region total	**2002**	**93,851**	**9,363**	**10.0**	**1,380**	**1.5**	**11,355**	**12.1**
North America								
Barbados								
Barbados	2001	2,759	255	9.2	42	1.5	385	14.0
Canada								
Saskatoon	2003	1,255	150	12.0	13	1.0	419	33.4
Region total	**2002**	**4,014**	**405**	**10.1**	**55**	**1.4**	**804**	**20.0**
Northern and Eastern Europe								
Albania								
Tiranë	2000	2,896	108	3.7	21	0.7	40	1.4
Bulgaria								
Sofia	2002	1,181	38	3.2	1	0.1	80	6.8
Croatia								
Rijeka	2002	1,633	72	4.4	10	0.6	174	10.7
Estonia								
Tallinn	2001	2,385	274	11.5	11	0.5	228	9.6
Georgia								
Kutaisi	2003	2,666	63	2.4	8	0.3	47	1.8
Hungary								
Svábhegy	2003	2,451	116	4.7	24	1.0	244	10.0
Kyrgyzstan								
Bishkek	2002	3,146	53	1.7	8	0.3	88	2.8
Jalalabat*	2003	1,664	35	2.1				
Country total	*2003*	*4,810*	*88*	*1.8*	*8*	*0.3*	*88*	*2.8*
Lithuania								
Kaunas	2002	2,772	82	3.0	3	0.1	98	3.5
Panevezys	1997	1,176	28	2.4	4	0.3	14	1.2
Siauliai	1997	1,341	37	2.8	10	0.7	30	2.2
Country total	*1999*	*5,289*	*147*	*2.8*	*17*	*0.3*	*142*	*2.7*
Poland								
Kraków	2001	2,497	259	10.4	37	1.5	722	28.9
Poznan	2002	1,999	258	12.9	18	0.9	689	34.5
Country total	*2002*	*4,496*	*517*	*11.5*	*55*	*1.2*	*1,411*	*31.4*
Russia								
Novosibirsk	2002	2,730	181	6.6	16	0.6	249	9.1
Serbia and Montenegro								
Belgrade	2001	1,932	135	7.0	19	1.0	333	17.2
Nis	2001	1,002	64	6.4	2	0.2	112	11.2
Novi Sad	2002	1,044	53	5.1	2	0.2	121	11.6
Sombor	2002	1,029	55	5.3	6	0.6	136	13.2
Country total	*2002*	*5,007*	*307*	*6.1*	*29*	*0.6*	*702*	*14.0*

(Continued)

TABLE E1. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Sweden								
Linköping	2002	2,089	466	22.3	26	1.2	806	38.6
Ukraine								
Kharkiv	2002	1,950	104	5.3	0	0.0	62	3.2
Rural Kharkiv	1998	3,000	114	3.8	7	0.2	94	3.1
Country total	*2000*	*4,950*	*218*	*4.4*	*7*	*0.1*	*156*	*3.2*
Region total	**2001**	**42,583**	**2,595**	**6.1**	**233**	**0.6**	**4,367**	**10.7**
Oceania								
Australia								
Melbourne	2002	2,968	509	17.1	60	2.0	958	32.3
New Zealand								
Auckland	2002	3,541	508	14.3	89	2.5	934	26.4
Bay of Plenty	2002	2,150	297	13.8	33	1.5	628	29.2
Christchurch	2003	3,315	613	18.5	62	1.9	1,255	37.9
Nelson	2003	1,867	216	11.6	14	0.7	607	32.5
Country total	*2003*	*10,873*	*1,634*	*15.0*	*198*	*1.8*	*3,424*	*31.5*
Niue								
Niue Island	2002	47	11	23.4	2	4.3	8	17.0
Region total	**2002**	**13,888**	**2,154**	**15.5**	**260**	**1.9**	**4,390**	**31.6**
Western Europe								
Austria								
Kärnten	2002	4,847	283	5.8	15	0.3	701	14.5
Urfahr-Umgebung	2002	2,029	133	6.6	13	0.6	304	15.0
Country total	*2002*	*6,876*	*416*	*6.1*	*28*	*0.4*	*1,005*	*14.6*
Belgium								
Antwerp	2002	5,645	656	11.6	46	0.8	1,247	22.1
Germany								
Münster	1999	3,830	302	7.9	20	0.5	562	14.7
Greece								
Thessaloniki	2000	1,228	41	3.3	1	0.1	139	11.3
Isle of Man								
Isle of Man	2001	1,096	138	12.6	6	0.5	323	29.5
Italy								
Bari	2002	1,943	176	9.1	5	0.3	167	8.6
Colleferro-Tivoli	2002	1,143	95	8.3	5	0.4	123	10.8
Emilia-Romagna	2002	2,265	234	10.3	9	0.4	399	17.6
Empoli	2002	1,152	99	8.6	4	0.3	132	11.5
Firenze	2002	1,036	104	10.0	2	0.2	153	14.8
Mantova	2002	1,288	145	11.3	1	0.1	212	16.5
Milano	2002	2,249	224	10.0	5	0.2	408	18.1
Roma	2002	2,224	226	10.2	7	0.3	352	15.8
Torino	2002	2,361	251	10.6	6	0.3	408	17.3
Trento	2002	2,359	244	10.3	7	0.3	355	15.0
Country total	*2002*	*18,020*	*1,798*	*10.0*	*51*	*0.3*	*2,709*	*15.0*
Portugal								
Funchal	2002	1,819	182	10.0	35	1.9	209	11.5
Lisbon	2002	2,477	253	10.2	29	1.2	387	15.6
Portimao	2001	1,069	86	8.0	15	1.4	162	15.2
Porto	2002	2,464	210	8.5	25	1.0	269	10.9
Country total	*2002*	*7,829*	*731*	*9.3*	*104*	*1.3*	*1,027*	*13.1*
Spain								
A Coruña	2003	3,016	220	7.3	19	0.6	1,074	35.6
Almeria	1996	3,349	285	8.5	49	1.5	629	18.8
Asturias	2002	3,193	206	6.5	11	0.3	977	30.6
Barcelona	2002	3,002	119	4.0	9	0.3	750	25.0
Bilbao	2001	3,157	214	6.8	14	0.4	1,003	31.8
Cartagena	2002	2,948	134	4.5	17	0.6	823	27.9
Castellón	2002	3,915	209	5.3	9	0.2	1,156	29.5
Madrid	2002	2,347	141	6.0	13	0.6	732	31.2
Pamplona	2001	3,176	222	7.0	11	0.3	1,006	31.7

(Continued)

TABLE E1. *(Continued)*

			Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
Center	**Year**	**No.**	**No.**	**Percent**	**No.**	**Percent**	**No.**	**Percent**
Valencia	2002	3,398	199	5.9	7	0.2	1,021	30.0
Country total	*2001*	*31,501*	*1,949*	*6.2*	*159*	*0.5*	*9,171*	*29.1*
United Kingdom								
Sunderland	2001	1,843	295	16.0	41	2.2	666	36.1
Region total	**2002**	**77,868**	**6,326**	**8.1**	**456**	**0.6**	**16,849**	**21.6**
Global total	**2001**	**385,853**	**30,616**	**7.9**	**3,965**	**1.0**	**54,687**	**14.2**

*Blank cells represent cases in which valid data were not available.

TABLE E2. Prevalence of symptoms of eczema, age group 13 to 14 years

			Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
Center	**Year**	**No.**	**No.**	**Percent**	**No.**	**Percent**	**No.**	**Percent**
Africa								
Algeria								
Wilaya of Algiers	2002	4,203	275	6.5	68	1.6	268	6.4
Cameroon								
Yaounde	2003	2,983	215	7.2	62	2.1	206	6.9
Congo								
Brazzaville	2002	1,012	164	16.2	39	3.9	290	28.7
Cote d'Ivoire								
Urban Cote d'Ivoire	2001	3,342	607	18.2	52	1.6	564	16.9
Ethiopia								
Addis Ababa	2003	3,195	606	19.0	80	2.5	210	6.6
Gabon								
Port-Gentil	2003	3,166	454	14.3	112	3.5	505	16.0
Kenya								
Eldoret	2001	3,289	509	15.5	133	4.0	936	28.5
Nairobi	2001	3,023	449	14.9	130	4.3	615	20.3
Country total	*2001*	*6,312*	*958*	*15.2*	*263*	*4.2*	*1,551*	*24.6*
Morocco								
Benslimane	1999	1,008	122	12.1	37	3.7	198	19.6
Boulmene	2002	1,254	100	8.0	20	1.6	142	11.3
Casablanca	2001	1,777	408	23.0	102	5.7	350	19.7
Marrakech	2002	1,689	346	20.5	98	5.8	346	20.5
Country total	*2001*	*5,728*	*976*	*17.0*	*257*	*4.5*	*1,036*	*18.1*
Nigeria								
Ibadan	2001	3,142	242	7.7	41	1.3	608	19.4
Republique Democratique du Congo								
Kinshasa	2003	2,930	320	10.9	56	1.9	673	23.0
Reunion Island								
Reunion Island	2000	2,362	324	13.7	57	2.4	426	18.0
République de Guinée								
Conakry	1997	3,115	587	18.8	131	4.2	766	24.6
South Africa								
Cape Town	2002	5,037	670	13.3	192	3.8	839	16.7
Polokwane	2004	4,660	520	11.2	98	2.1	890	19.1
Country total	*2003*	*9,697*	*1,190*	*12.3*	*290*	*3.0*	*1,729*	*17.8*
Sudan								
Khartoum*	2003	2,896	137	4.7			123	4.2
Togo								
Lome	2001	3,090	332	10.7	26	0.8	375	12.1
Tunisia								
Grand Tunis	2001	6,119	793	13.0	187	3.1	466	7.6
Sousse	2001	3,042	286	9.4	63	2.1	292	9.6
Country total	*2001*	*9,161*	*1,079*	*11.8*	*250*	*2.7*	*758*	*8.3*
Region total	**2002**	**66,334**	**8,466**	**12.8**	**1,784**	**2.8**	**10,088**	**15.2**
Asia-Pacific								
China								
Beijing	2001	3,530	42	1.2	7	0.2	436	12.4
Guangzhou	2001	3,514	56	1.6	7	0.2	620	17.6
Tibet	2001	2,878	5	0.2	2	0.1	41	1.4
Tong Zhou	2001	3,542	16	0.5	3	0.1	240	6.8
Wulumuqi	2001	3,884	30	0.8	5	0.1	230	5.9
Country total	*2001*	*17,348*	*149*	*0.9*	*24*	*0.1*	*1,567*	*9.0*
Hong Kong								
Hong Kong	2002	3,321	108	3.3	9	0.3	444	13.4
Indonesia								
Bali	2001	2,569	95	3.7	3	0.1	269	10.5
Bandung	2002	2,826	63	2.2	6	0.2	213	7.5
Semarang	2002	2,435	82	3.4	4	0.2	277	11.4
Country total	*2002*	*7,830*	*240*	*3.1*	*13*	*0.2*	*759*	*9.7*

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Malaysia								
Alor Setar	2002	2,941	359	12.2	23	0.8	769	26.1
Klang Valley	2001	3,025	279	9.2	28	0.9	121	4.0
Kota Bharu	2001	2,989	253	8.5	31	1.0	212	7.1
Country total	*2001*	*8,955*	*891*	*9.9*	*82*	*0.9*	*1,102*	*12.3*
Philippines								
Metro Manila	2001	3,658	284	7.8	56	1.5	306	8.4
Singapore								
Singapore	2001	4,217	387	9.2	80	1.9	232	5.5
South Korea								
Provincial Korea	2000	7,375	424	5.7	90	1.2	898	12.2
Seoul	2000	2,888	166	5.7	44	1.5	379	13.1
Country total	*2000*	*10,263*	*590*	*5.7*	*134*	*1.3*	*1,277*	*12.4*
Taiwan								
Taipei	2001	6,378	262	4.1	31	0.5	1,083	17.0
Taoyuan	2002	3,190	143	4.5	7	0.2	438	13.7
Country total	*2002*	*9,568*	*405*	*4.2*	*38*	*0.4*	*1,521*	*15.9*
Thailand								
Bangkok	2001	4,669	485	10.4	59	1.3	1,461	31.3
Chantaburi	2001	2,901	308	10.6	25	0.9	617	21.3
Chiang Mai	2001	3,538	304	8.6	41	1.2	875	24.7
Chiangrai	1995	1,809	91	5.0	16	0.9	362	20.0
Khon Kaen	1999	3,410	160	4.7	32	0.9	831	24.4
Nakorn Pathom	1996	6,975	330	4.7	50	0.7	1,660	23.8
Country total	*1999*	*23,302*	*1,678*	*7.2*	*223*	*1.0*	*5,806*	*24.9*
Vietnam								
Ho Chi Minh City	2001	4,240	136	3.2	2	0.0	289	6.8
Region total	**2001**	**92,702**	**4,868**	**5.3**	**661**	**0.7**	**13,303**	**14.4**
Eastern Mediterranean								
Egypt								
Cairo	2002	3,047	135	4.4	27	0.9	206	6.8
Iran								
Birjand	1996	2,829	117	4.1	54	1.9	319	11.3
Rasht	2002	3,004	136	4.5	40	1.3	526	17.5
Tehran	2001	3,119	134	4.3	50	1.6	706	22.6
Zanjan	1996	2,805	106	3.8	31	1.1	423	15.1
Country total	*1999*	*11,757*	*493*	*4.2*	*175*	*1.5*	*1,974*	*16.8*
Jordan								
Amman	2001	2,447	217	8.9	45	1.8	141	5.8
Kuwait								
Kuwait*	2001	2,882	175	6.1			314	10.9
Malta								
Malta	2002	4,136	224	5.4	29	0.7	474	11.5
Pakistan								
Islamabad	2002	4,069	463	11.4	84	2.1	244	6.0
Karachi	2001	2,999	396	13.2	54	1.8	416	13.9
Country total	*2002*	*7,068*	*859*	*12.2*	*138*	*2.0*	*660*	*9.3*
Palestine								
North Gaza	2000	3,627	214	5.9	82	2.3	319	8.8
Ramallah	2000	3,929	309	7.9	69	1.8	295	7.5
Country total	*2000*	*7,556*	*523*	*6.9*	*151*	*2.0*	*614*	*8.1*
Sultanate of Oman								
Al-Khod	2001	3,747	265	7.1	85	2.3	541	14.4
Syrian Arab Republic								
Aleppo	2001	3,063	125	4.1	29	0.9	198	6.5
Lattakia	2001	3,010	101	3.4	20	0.7	252	8.4
Tartous	2001	2,995	125	4.2	26	0.9	212	7.1
Country total	*2001*	*9,068*	*351*	*3.9*	*75*	*0.8*	*662*	*7.3*
Region total	**2001**	**51,708**	**3,242**	**6.3**	**725**	**1.5**	**5,586**	**10.8**
Indian Subcontinent								
India								

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Bangalore	2002	3,440	192	5.6	16	0.5	80	2.3
Bikaner	2001	3,059	261	8.5	32	1.0	943	30.8
Borivali	2003	1,004	9	0.9	0	0.0	42	4.2
Chandigarh	2001	3,122	113	3.6	3	0.1	123	3.9
Chennai (3)	2002	2,181	27	1.2	2	0.1	139	6.4
Davangere*	2002	2,945	40	1.4			178	6.0
Jaipur	2001	3,607	159	4.4	22	0.6	707	19.6
Jodhpur	2003	2,341	63	2.7	7	0.3	291	12.4
Kottayam*	2002	3,685	341	9.3			413	11.2
Lucknow	2001	3,000	99	3.3	11	0.4	243	8.1
Ludhiana	2002	3,108	124	4.0	19	0.6	207	6.7
Mumbai (18)	2002	2,982	41	1.4	9	0.3	243	8.1
Mumbai (29)	2002	1,829	20	1.1	3	0.2	56	3.1
Nagpur	2002	4,150	117	2.8	8	0.2	129	3.1
New Delhi (7)	2001	3,469	122	3.5	16	0.5	161	4.6
Pimpri	2002	3,128	28	0.9	3	0.1	208	6.6
Pune	2001	1,983	42	2.1	4	0.2	188	9.5
asta Peth	2001	3,065	52	1.7	6	0.2	288	9.4
Country total	*2002*	*52,098*	*1,850*	*3.6*	*161*	*0.4*	*4,639*	*8.9*
Sri Lanka								
Sri Lanka	2001	3,717	286	7.7	32	0.9	619	16.7
Region total	**2002**	**55,815**	**2,136**	**3.8**	**193**	**0.4**	**5,258**	**9.4**
Latin America								
Argentina								
Córdoba	2002	3,445	216	6.3	31	0.9	329	9.6
Neuquén	2002	3,172	266	8.4	47	1.5	148	4.7
Rosario City	2001	3,099	198	6.4	38	1.2	305	9.8
Salta	2002	3,000	240	8.0	35	1.2	382	12.7
Country total	*2002*	*12,716*	*920*	*7.2*	*151*	*1.2*	*1,164*	*9.2*
Bolivia								
Santa Cruz	2002	3,257	687	21.1	136	4.2	433	13.3
Brazil								
Aracaju	2002	3,043	172	5.7	39	1.3	399	13.1
Belo Horizonte	2002	3,088	116	3.8	13	0.4	371	12.0
Brasília	2002	3,009	128	4.3	26	0.9	409	13.6
Caruaru	2002	3,026	147	4.9	30	1.0	428	14.1
Curitiba	2001	3,628	133	3.7	13	0.4	148	4.1
Feira de Santana	2002	1,732	65	3.8	20	1.2	44	2.5
Itajaí	2001	2,737	90	3.3	7	0.3	246	9.0
Maceió	2002	2,745	108	3.9	23	0.8	175	6.4
Manaus Amazonas	2002	3,009	171	5.7	35	1.2	426	14.2
Nova Iguaçu	2002	3,185	129	4.1	19	0.6	298	9.4
Passo Fundo	2002	2,949	147	5.0	24	0.8	395	13.4
Porto Alegre	2003	3,007	122	4.1	20	0.7	352	11.7
Recife	2002	2,865	138	4.8	30	1.0	350	12.2
Rural Santa Maria	2003	3,057	122	4.0	20	0.7	363	11.9
Salvador	2002	3,020	155	5.1	31	1.0	67	2.2
Santa Maria	2003	3,065	98	3.2	21	0.7	302	9.9
Santo Andre	2000	3,232	111	3.4	12	0.4	393	12.2
São Paulo	2002	3,161	112	3.5	7	0.2	400	12.7
São Paulo West	2002	3,181	152	4.8	26	0.8	275	8.6
Vitória da Conquista	2002	1,679	78	4.6	16	1.0	42	2.5
Country total	*2002*	*58,418*	*2,494*	*4.3*	*432*	*0.7*	*5,883*	*10.1*
Chile								
Calama	2002	1,618	319	19.7	42	2.6	342	21.1
Chiloe	2002	3,000	293	9.8	32	1.1	464	15.5
Punta Arenas	2001	3,044	403	13.2	40	1.3	247	8.1
South Santiago	2001	3,026	667	22.0	92	3.0	964	31.9
Valdivia	2001	3,105	406	13.1	52	1.7	392	12.6
Country total	*2001*	*13,793*	*2,088*	*15.1*	*258*	*1.9*	*2,409*	*17.5*

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Colombia								
Barranquilla	2002	3,204	789	24.6	125	3.9	515	16.1
Bogotá	2002	3,830	464	12.1	59	1.5	140	3.7
Cali	2002	3,100	214	6.9	43	1.4	70	2.3
Country total	*2002*	*10,134*	*1,467*	*14.5*	*227*	*2.2*	*725*	*7.2*
Costa Rica								
Costa Rica	2002	2,436	154	6.3	32	1.3	184	7.6
Cuba								
La Habana	2002	3,026	306	10.1	68	2.2	419	13.8
Ecuador								
Guayaquil	2002	3,082	409	13.3	73	2.4	539	17.5
Quito	2003	3,014	599	19.9	67	2.2	354	11.7
Country total	*2003*	*6,096*	*1,008*	*16.5*	*140*	*2.3*	*893*	*14.6*
El Salvador								
San Salvador	2003	3,260	174	5.3	20	0.6	214	6.6
Honduras								
San Pedro Sula	2002	2,675	416	15.6	95	3.6	207	7.7
Mexico								
Ciudad Victoria	2003	3,122	160	5.1	34	1.1	26	0.8
Ciudad de México (1)	2002	3,891	330	8.5	36	0.9	91	2.3
Ciudad de México (3)	2002	3,474	256	7.4	22	0.6	41	1.2
Ciudad de México (4)	2002	2,662	179	6.7	17	0.6	39	1.5
Cuernavaca	2002	1,431	40	2.8	4	0.3	136	9.5
Mexicali Valley	2002	2,988	85	2.8	3	0.1	38	1.3
Monterrey	2001	3,006	119	4.0	23	0.8	46	1.5
Mérida	2002	3,019	104	3.4	10	0.3	35	1.2
Toluca	2002	3,021	94	3.1	15	0.5	124	4.1
Villahermosa	2002	3,109	165	5.3	34	1.1	119	3.8
Country total	*2002*	*29,723*	*1,532*	*5.2*	*198*	*0.7*	*695*	*2.3*
Nicaragua								
Managua	2002	3,263	667	20.4	99	3.0	503	15.4
Panama								
David-Panamá	2001	3,183	460	14.5	55	1.7	1,129	35.5
Paraguay								
Asunción	2002	3,000	530	17.7	78	2.6	697	23.2
Peru								
Lima	2001	3,022	317	10.5	29	1.0	626	20.7
Uruguay								
Montevideo	2002	3,177	166	5.2	38	1.2	299	9.4
Paysandú	2002	1,738	93	5.4	29	1.7	43	2.5
Country total	*2002*	*4,915*	*259*	*5.3*	*67*	*1.4*	*342*	*7.0*
Venezuela								
Caracas	2002	3,000	215	7.2	50	1.7	786	26.2
Region total	**2002**	**165,917**	**13694**	**8.3**	**2,135**	**1.3**	**17,309**	**10.4**
North America								
Barbados								
Barbados	2001	2,498	174	7.0	33	1.3	221	8.8
Canada								
Vancouver	2003	2,853	255	8.9	32	1.1	377	13.2
Trinidad and Tobago								
St Augustine	2002	3,512	279	7.9	67	1.9	108	3.1
Tobago	2002	1,464	152	10.4	38	2.6	58	4.0
Country total	*2002*	*4,976*	*431*	*8.7*	*105*	*2.1*	*166*	*3.3*
United States								
Sarasota	2003	1,245	55	4.4	7	0.6	54	4.3
Seattle	2003	2,422	202	8.3	35	1.4	256	10.6
Country total	*2003*	*3,667*	*257*	*7.0*	*42*	*1.1*	*310*	*8.5*
Region total	**2002**	**13,994**	**1,117**	**8.0**	**212**	**1.5**	**1,074**	**7.7**
Northern and Eastern Europe								
Albania								
Tiranë	2001	2,983	59	2.0	5	0.2	87	2.9

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Bulgaria								
Sofia	2002	1,926	58	3.0	9	0.5	244	12.7
Croatia								
Rijeka	2002	2,194	64	2.9	5	0.2	187	8.5
Estonia								
Tallinn	2001	3,603	313	8.7	11	0.3	279	7.7
Finland								
Kuopio County	2001	3,051	477	15.6	28	0.9	744	24.4
Former Yugoslav Republic of Macedonia (FYROM)								
Skopje	2002	3,026	82	2.7	10	0.3	112	3.7
Georgia								
Kutaisi	2003	2,650	48	1.8	8	0.3	42	1.6
Hungary								
Svábhegy	2003	4,219	240	5.7	37	0.9	392	9.3
Szeged	2003	2,889	127	4.4	18	0.6	455	15.7
Country total	*2003*	*7,108*	*367*	*5.2*	*55*	*0.8*	*847*	*11.9*
Kyrgyzstan								
Balykchi	2002	1,382	38	2.7	2	0.1	57	4.1
Bishkek	2002	5,048	145	2.9	11	0.2	229	4.5
Jalalabat	2003	2,404	90	3.7	16	0.7	27	1.1
Country total	*2002*	*8,834*	*273*	*3.1*	*29*	*0.3*	*313*	*3.5*
Latvia								
Riga	2004	1,283	43	3.4	4	0.3	94	7.3
Lithuania								
Kaunas	2001	2,723	49	1.8	6	0.2	61	2.2
Panevezys	1997	1,187	29	2.4	7	0.6	17	1.4
Siauliai	1997	3,516	97	2.8	15	0.4	115	3.3
Country total	*1998*	*7,426*	*175*	*2.4*	*28*	*0.4*	*193*	*2.6*
Poland								
Kraków	2002	2,545	226	8.9	17	0.7	396	15.6
Poznan	2002	1,875	151	8.1	13	0.7	390	20.8
Country total	*2002*	*4,420*	*377*	*8.5*	*30*	*0.7*	*786*	*17.8*
Romania								
Cluj	2001	3,019	163	5.4	33	1.1	92	3.0
Russia								
Novosibirsk	2002	3,769	143	3.8	13	0.3	164	4.4
Serbia and Montenegro								
Belgrade	2001	3,228	257	8.0	23	0.7	577	17.9
Nis	2001	1,207	78	6.5	16	1.3	196	16.2
Novi Sad	2002	1,171	33	2.8	6	0.5	96	8.2
Podgorica	2003	1,014	33	3.3	5	0.5	105	10.4
Sombor	2002	1,105	34	3.1	5	0.5	103	9.3
Country total	*2002*	*7,725*	*435*	*5.6*	*55*	*0.7*	*1,077*	*13.9*
Sweden								
Linköping	2002	2,679	345	12.9	19	0.7	1,295	48.3
Ukraine								
Kharkiv	2002	2,428	139	5.7	4	0.2	165	6.8
Rural Kharkiv	1998	3,968	104	2.6	3	0.1	170	4.3
Country total	*2000*	*6,396*	*243*	*3.8*	*7*	*0.1*	*335*	*5.2*
Region total	**2002**	**72,092**	**3,665**	**5.1**	**349**	**0.5**	**6,891**	**9.6**
Oceania								
Australia								
Melbourne	2002	2,192	234	10.7	26	1.2	493	22.5
Cook Islands								
Rarotonga	2003	445	24	5.4	4	0.9	63	14.2
Fiji								
Suva	2002	3,093	401	13.0	116	3.8	222	7.2
Kingdom of Tonga								
Nuku'alofa†	2002	2,671	400	15.0	105	3.9		

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
New Zealand								
Auckland	2001	2,870	255	8.9	55	1.9	590	20.6
Bay of Plenty	2002	1,976	161	8.1	19	1.0	416	21.1
Christchurch	2003	3,116	219	7.0	39	1.3	867	27.8
Nelson	2003	2,305	172	7.5	16	0.7	617	26.8
Wellington	2001	3,050	370	12.1	47	1.5	983	32.2
Country total	*2002*	*13,317*	*1,177*	*8.8*	*176*	*1.3*	*3,473*	*26.1*
Niue								
Niue Island	2002	79	12	15.2	2	2.5	13	16.5
Nouvelle Caledonie								
Nouvelle Caledonie	1998	7,247	524	7.2	75	1.0	904	12.5
Polynesie Francaise								
Polynesie Francaise	2000	4,289	363	8.5	69	1.6	544	12.7
Samoa								
Apia	2003	2,986	411	13.8	133	4.5	1,229	41.2
Tokelau								
Tokelau	2003	66	9	13.6	3	4.5	7	10.6
Region total	**2002**	**36,385**	**3,555**	**9.8**	**709**	**1.9**	**6,948**	**20.6**
Western Europe								
Austria								
Urfahr-Umgebung	2003	1,439	108	7.5	10	0.7	169	11.7
Belgium								
Antwerp	2002	3,250	233	7.2	28	0.9	773	23.8
Channel Islands								
Guernsey	2001	1,248	140	11.2	33	2.6	288	23.1
Jersey	2002	773	83	10.7	9	1.2	184	23.8
Country total	*2002*	*2,021*	*223*	*11.0*	*42*	*2.1*	*472*	*23.4*
Germany								
Münster	1999	4,132	320	7.7	39	0.9	563	13.6
Isle of Man								
Isle of Man	2001	1,716	190	11.1	29	1.7	379	22.1
Italy								
Bari	2002	1,287	119	9.2	7	0.5	100	7.8
Colleferro-Tivoli	2002	1,361	50	3.7	3	0.2	69	5.1
Cosenza	2002	925	33	3.6	3	0.3	26	2.8
Emilia-Romagna	2002	1,347	118	8.8	4	0.3	114	8.5
Empoli	2002	1,229	64	5.2	5	0.4	57	4.6
Firenze	2002	1,383	111	8.0	6	0.4	83	6.0
Mantova	2002	1,114	79	7.1	4	0.4	77	6.9
Milano	2002	1,410	118	8.4	7	0.5	193	13.7
Palermo	2002	1,221	84	6.9	10	0.8	85	7.0
Roma	2002	1,325	104	7.8	7	0.5	64	4.8
Siena	2002	1,082	108	10.0	7	0.6	178	16.5
Torino	2002	1,180	121	10.3	5	0.4	118	10.0
Trento	2002	1,311	88	6.7	1	0.1	131	10.0
Country total	*2002*	*16,175*	*1,197*	*7.4*	*69*	*0.4*	*1,295*	*8.0*
The Netherlands								
The Netherlands	2003	6,896	559	8.1	67	1.0	2,418	35.1
Portugal								
Coimbra	2002	1,177	71	6.0	15	1.3	197	16.7
Funchal	2002	3,161	141	4.5	34	1.1	430	13.6
Lisbon	2002	3,024	169	5.6	33	1.1	391	12.9
Portimao	2002	1,109	54	4.9	10	0.9	122	11.0
Porto	2002	3,336	177	5.3	37	1.1	365	10.9
Country total	*2002*	*11,807*	*612*	*5.2*	*129*	*1.1*	*1,505*	*12.7*
Republic of Ireland								
Republic of Ireland	2003	3,089	267	8.6	40	1.3	443	14.3
Spain								
A Coruña	2003	2,979	147	4.9	9	0.3	444	14.9
Almeria	1996	4,051	227	5.6	33	0.8	397	9.8

(Continued)

TABLE E2. *(Continued)*

Center	Year	No.	Current symptoms of eczema		Current symptoms of severe eczema		Eczema ever	
			No.	Percent	No.	Percent	No.	Percent
Asturias	2002	4,184	141	3.4	13	0.3	461	11.0
Barcelona	2002	3,066	79	2.6	10	0.3	376	12.3
Bilbao	2001	3,401	137	4.0	12	0.4	367	10.8
Cartagena	2002	3,998	160	4.0	25	0.6	541	13.5
Castellón	2002	4,024	163	4.1	9	0.2	483	12.0
Madrid	2002	2,652	139	5.2	23	0.9	326	12.3
Pamplona	2001	2,932	118	4.0	9	0.3	264	9.0
San Sebastián	2002	1,195	66	5.5	8	0.7	168	14.1
Valencia	2002	3,132	129	4.1	15	0.5	502	16.0
Valladolid	2002	2,944	133	4.5	15	0.5	409	13.9
Country total	*2001*	*38,558*	*1,639*	*4.3*	*181*	*0.5*	*4,738*	*12.3*
United Kingdom								
North Thames	2002	2,356	263	11.2	31	1.3	622	26.4
Scotland	2002	4,662	548	11.8	85	1.8	1,162	24.9
South Thames	2002	2,432	254	10.4	29	1.2	614	25.2
Sunderland	2001	2,193	226	10.3	16	0.7	634	28.9
Surrey/Sussex	2002	5,082	484	9.5	63	1.2	1,388	27.3
Wales	2002	2,501	265	10.6	64	2.6	595	23.8
Country total	*2002*	*19,226*	*2,040*	*10.6*	*288*	*1.5*	*5,015*	*26.1*
Region total	**2002**	**108,309**	**7,388**	**6.8**	**922**	**0.9**	**17,770**	**16.4**
Global total	**2002**	**663,256**	**48,131**	**7.3**	**7,690**	**1.2**	**84,227**	**12.8**

*Blank cells represent cases in which valid data were not available.

†Blank cells represent cases where the specific translation was not considered equivalent to the English language question.