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ALLERGIES AND THE ENVIRONMENT

Report on a WHO Meeting

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TARGET 18

POLICY ON ENVIRONMENT AND HEALTH

By the year 2000, all Member States should have developed, and be implementing, policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks and equitable access to healthy environments.

ABSTRACT

The WHO pamphlet series for local authorities aims at providing local decision-makers with accessible and reliable information on various subjects of environment and health. Ten themes have currently been defined: accidents, air, housing, noise, public hygiene, radiation, toxicology, urban planning, waste and water. However, a few "lateral" themes have also been identified, which justify the coordination of the writing of those documents. Several pamphlets under development are linked to the theme "allergies and the environment" and deal, *inter alia*, with indoor air quality, moulds and moisture, asthma and respiratory allergies, and adverse reactions to food, in addition to the cover pamphlet entitled "Allergies and the environment".

A meeting of the authors of these documents was therefore organized in Berlin, with the financial support of the German Ministry of Health, to design a clear table of contents, to ensure consistency and avoid duplication, and to take advantage of the experience of several specialists to make the pamphlets more comprehensive.

Keywords

RESPIRATORY HYPERSENSITIVITY – prevention and control
AIR POLLUTION, INDOOR
FOOD HYPERSENSITIVITY – prevention and control
EUROPE

Development of the meeting

Professor Arnold welcomed the participants of the meeting in the building of the BGVV, and thanked the WHO Regional Office for Europe and the German Ministry of Health.

Xavier Bonnefoy thanked Professor Arnold for hosting this meeting, the German Ministry of Health (represented by Dr J. Blasius) for its financial support, and the BGVV Institute, in particular Dr Hahn, for the perfect organization of the meeting.

Emmanuel Briand briefly introduced the series of pamphlets and their main characteristics:

- target: local authorities, i.e. non-specialists who need a document which is complete, reliable, practical and accessible;
- format: 20-24 pages, colourful and attractive;
- process: from the first draft to the layout, with an emphasis on the review process.

He also emphasized the necessity of delivering a maximum of two or three clear and simple messages, rather than sprinkling a number of recommendations throughout the text which would have the effect of diluting their strength.

The authors then introduced the documents they were working on and the main topics they wished to see included. After each presentation, a short discussion gave participants the opportunity to make comments.

A general discussion followed these presentations, aimed at specifying the relationship between the pamphlets, and the importance of the various documents. It was agreed that five pamphlets should be written with the following titles:

- Allergies and the environment
- Indoor air quality
- Moulds and moisture
- Asthma and respiratory allergies
- Adverse reactions to food.

After an introduction covering the general scope of the project and the proposed content of each document, the participants discussed the detail in working groups. The results of the working groups were then discussed generally, and the question of pictures was raised.

Finally, participants discussed and endorsed the recommendations at the end of the meeting.

Allergies and the environment

1. General presentation

This document is educational rather than action-oriented. Its aim is to answer the rising public concern about allergies and their presence in our everyday life.

2. Original table of contents

a) *Definitions:*

- Two phases of the allergy process:
 - sensitization
 - arousal of symptoms

b) *Basic concepts:*

- The triangle: environment/genetic background/health condition

c) *Historical aspects:*

- The prevalence of allergies in Europe, North America and Japan has increased dramatically since World War II

d) *Geographical aspects:*

- The wide variation in the distribution of allergic diseases throughout Europe
- The technological and economic levels of a region determine the general level of allergies, but the geographical and climatic factors also have a great impact on allergens
- Cultural aspects such as the use of carpets, the number of pets, etc. are important

e) *Prevention:*

- Three levels:
 - primary prevent individuals from becoming allergic
 - secondary reduce exposure to allergy-stimulating factors
 - tertiary treat allergic individuals with preventive medication

f) *Economic aspects:*

- Nothing is being done. The prevalence of allergic diseases is increasing.
- What will an extensive array of preventive measures cost? What will it save?

3. Conclusions and recommendations

- Greater emphasis on the epidemiological aspect
- Include a comparison between east and west
- A white paper which is under preparation in the EU should be used
- Focus on three basic questions:
 - Is it true that allergies are increasing?
 - Why?
 - How should we deal with it?
- Add more figures on the economic aspect.

Asthma and respiratory allergies

1. General presentation

This document is action-oriented. It helps decision-makers assess a situation and take action to reduce the prevalence of asthma in their regions or cities.

2. Original table of contents

a) *Definition of respiratory allergy and asthma:*

- Respiratory allergy:
 - Pollinosis symptoms
 - Rhinitis symptoms
- Asthma symptoms:
 - Inflammation
 - Mucus production
 - Variable narrowing of airways.

b) *Principal causes of asthma:*

- Innate factors:
 - Atopy (genetic)
 - Gender and race
 - Hypersensitiveness of airways
- Induced factors:
 - Factors that can sensitize the airways and/or cause the onset of respiratory allergies and asthma (include allergens inhaled both indoors and outside)
- Triggers:
 - Further exposure to causal factors
 - Exposure to exercise, cold air, irritating gases, weather changes and expression of extreme emotions
- Contributory factors:
 - Tobacco, air pollution, viral respiratory infection, pets, etc.

c) *Historical aspects:*

- Hippocrates was the first to use "asthma" as a medical term: renaissance with the first description of allergic asthma (animal dander)
- 18th century: Ramazzini
- 1850: Blackley
- 20th century: atopy and respiratory tests
- Asthma prevalence seems to be closely connected with economic development: from the 18th century onwards, it has developed very rapidly.

a) *Geographical aspects:*

- Present everywhere but more common in affluent populations
- Prevalence of asthma in children varies from 0% to 30% in different populations
- Data for eastern European countries is lacking.

b) *Prevention:*

- What exactly is the problem, and is there a local emergency?
 - Monitoring of asthma cases and death should be started
 - Monitoring of pollens and air parameters.
- Intervention:
 - at municipal level
 - at community level

c) *Economic aspects:*

- Cost of asthma for society (direct, indirect and psychosocial costs)
- Cost of preventive measures:
 - primary, secondary, tertiary prevention
 - monitoring and surveys
 - information and training

3. **Conclusions and recommendations**

- Find case studies taken from the "real world"
- Emphasize community-related self-management
- The technical annex need to be more medical-oriented
- Cross-reference to "Indoor air quality" and "Moulds and moistures"
- Comments from Dr Nevalainen as soon as the first draft is written
- The importance of pets and dust
- Identify recommendations for action
- What is the situation in your city?
- How to use a peak-flow meter to conduct a short health survey?
- Importance of tobacco
- Add case studies
- What are the early symptoms of asthma?

Indoor Air Quality

1. General presentation

The pamphlet is a general document starting from exposure to indoor air components and describing their impact on health and how they should be dealt with. The title "Indoor air quality" (previously "Indoor air pollutants") has been chosen to give a positive tone to the pamphlet.

The three main messages of this document are:

- old hygiene rules which have been forgotten should be rediscovered, especially the importance of indoor climate, including the right choice of temperature and ventilation conditions;
- elimination and control of unnecessary emissions;
- consider indoor air as an important pathway of exposure.

2. Original table of contents

a) *Definition*

b) *Importance of indoor air:*

- Deterioration over the last decade: the tendency to lower ventilation for energy-saving reasons has led to an increase in the number of acute reactions.
- Indoor air pollutants which have a chronic effect (carcinogens, systemic toxins, etc.).
- The majority of the population spends more time in enclosed spaces than in outdoor air.

c) *Causes of indoor air pollution:*

- Occupants
- Outdoor air
- Building materials and products
- Furnishing, appliances and equipment.

d) *Major indoor air pollutants and their health effects:*

- Environmental tobacco
- HCHO
- CO
- CO₂
- NO₂
- Polycyclic aromatic hydrocarbons (PAH)
- VOC
- Suspended particulate matter and house dust
- Asbestos and other fibres (cross-reference to "Asbestos and health")
- Radon (cross-reference to "Radon")
- Lead (cross-reference to "Lead and health")
- Pesticides (cross-reference to "Pesticides and health")
- Biological agents (cross-reference to "Rodents", "Cockroaches", "Moulds and moistures")

- e) *Indoor air pollution and energy conservation:*
 - Data to be taken from ECA report No. 7
- f) *Indoor air pollution in developing countries:*
 - Lack of data on eastern Europe
- g) *Prevention of indoor air pollution:*
 - Information/education of the main players
 - Source control

3. Conclusions and recommendations

- Links will be made with "Moulds and moistures" and dermal exposure (dealt with in "Adverse reaction to food")
- A case study on renovation work will be added
- A paragraph on pesticide treatment, with cross-reference to "Pesticides and health"
- A paragraph on cleaning and humidifiers, with cross-reference to "Moulds and moistures"
- The message: it is sometimes more economic to remedy a situation that might be developing than to spend time assessing a problem before taking action
- WHO will send the authors the current draft of the following pamphlets:
 - contaminated land
 - landfill
 - rodents
 - cockroaches.
- The question of writing a pamphlet on "Healthy houses" has been raised.

Moulds and Moistures

1. General presentation

This pamphlet focuses on an important aspect of indoor air quality, i.e. the problems of moulds and moistures. It is a practical document which will raise the awareness of the reader to the dangers of badly designed constructions and give practical advice on how to remediate to moisture. The main message is: "trust your eyes and your nose", i.e. use a common sense approach rather than expensive surveys.

2. Original table of contents

a) *Historical and geographical issues:*

- Moulds and health: old knowledge in new contexts
- Moulds and buildings: why is mould suddenly so harmful?
 - Moulds grow on concrete, ceramic, tiles, etc. as well as on biodegradable materials
 - Building-associated moulds are different from certain types of fungi and bacteria
 - Emissions from microbial growths cause exposure to irritative, allergenic and toxic elements
- Health effects:
 - Upper and lower respiratory symptoms, chronic respiratory diseases, asthma
 - Mycotoxins are extremely toxic
 - Volatile metabolic products are irritating to the eyes and the respiratory system

b) *Economic aspects*

c) *Technical issues:*

- Faults in design or construction
- High-risk constructions and materials
- Role of use, service and maintenance

d) *Principles of repair and control of moisture problems:*

- Analysis: find the source and cause and read the signs of the building
- Use of chronic disinfection
- Handling of contaminated furniture

e) *Management of a mould problem, including when it develops into a classic situation*

f) *Occupational hygiene in demolition and repair*

g) *Good quality in design, construction, use and maintenance*

3. Conclusions and recommendations

- Microtoxins: warning that moulds can be extremely toxic
- Special box to mention endotoxins
- Measurements: advocate a common sense approach
- Technical annex: the most important principles to solve the problem
- WHO will send the author the pamphlets on "Cockroaches", "Radon" and "Sick building syndrome"

Adverse reactions to food

1. General presentation

This pamphlet will tackle the various adverse reactions to food, objective or subjective, which can be felt by the population. It will emphasize the major problem of misconception leading to confusion of adverse reaction to food with food poisoning, food allergies and other adverse reactions. It will also include the issue of skin.

2. Original table of contents

a) *Definition and classification:*

- Adverse reaction to food:
 - toxic = food allergy
 - non-toxic = food intolerance.

b) *Prevalence, natural history and geographical aspects:*

- Prevalence
 - allergy to cows' milk = 1-3%
 - immune-mediated reactions to food = 10-20% in children, 3-12% in adults
- Natural history of food allergies:
 - early infancy = cows' milk
 - egg allergy usually subsides with puberty
- Prevalence levels throughout Europe, USA and other parts of the world

c) *Chronic characterization of food allergies and trigger factors*

d) *Symptomatology:*

- Skin reaction (urticaria, atopic dermatitis)
- Gastrointestinal tract
- Respiratory system (allergic rhinitis, allergic asthma)

e) *Social and economic aspects:*

- Lack of available data.

f) *Prevention:*

- Breastfeeding for at least 4 months, 6 months recommended
- Labelling and dietary elimination

3. Conclusions and recommendations

- Pamphlet to appear less sophisticated
- Add more examples
- Start from the paediatric aspect to the general aspect
- Message: the problem of food allergies has to be "objectified"
- A special paragraph on immigrant groups?

- Mention contaminated food (by fungi or chemicals)
- What is the size of the different problems? For example, the first sentence could highlight the fact that food hygiene is the most important issue.
- The problem of food additives?
- Diagnosis will be described in the technical annex
- Dr Hahn and Dr Bergman will produce a one-page draft to send to Dr Skov, Dr Poulsen and Professor Lindvall
- This pamphlet is to help avoid a huge misconception according to which a lot of people are allergic to food. Therefore, it has to show how to handle the subject from a psychological point of view. It has to show that public health specialists are happy to see that food allergies is not a huge job.
- Comment on genetically modified food
- Show the difference between food allergy and food poisoning

TIMETABLE

The following schedule has been proposed:

Deadline	Action
End April 1997	First drafts arrive in WHO and are sent for review to experts proposed by the authors and chosen by the specialists.
May-June 1997	Review process
July 1997	Integration of comments and finalization of pictorial work
August 1997	Layout
September 1997	Printing

WHO should receive the first five drafts by the end of April 1997 (see recommendation 4 below).

RECOMMENDATIONS

Recommendation 1

Participants recognized that the writing of pamphlets on environmental and health issues would provide a relevant tool and useful mechanism for giving guidance to decision-makers in a wide range of areas and on a large number of subjects. They requested the WHO Regional Office for Europe to look for additional resources in order to increase the speed of development of new documents.

Recommendation 2

The initial audience for the pamphlets was local decision-makers. Participants recognized that new target audiences have emerged such as teachers, nongovernmental organizations, groups of professionals, national governments, health promotion specialists, private companies, occupational health professionals, etc. This was seen as a positive development of the project which should not lead to major changes in the concept of the documents.

Recommendation 3

The group committed itself to producing five pamphlets with the following titles before the end of June 1997:

- Allergies and the environment
- Indoor air quality
- Moulds and moistures
- Asthma and respiratory allergies
- Adverse reaction to food.

Recommendation 4

The participants agreed to work according to a process and a timetable which is clearly described in the final report of the meeting. They also agreed to provide WHO with pictures and data necessary to illustrate the final documents.

Recommendation 5

The participants requested that WHO take all necessary action to have the documents related to allergy translated and printed in as many languages as possible.

Annex I

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