



REPORT OF WHO INFORMAL CONSULTATION ON WHO/ISHAM
 STRATEGIES FOR PREVENTION AND CONTROL OF MYCOTIC DISEASES
 RELATED TO ANIMALS AND ANIMAL PRODUCTS

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1. Introduction

The Consultation was opened by Dr T. Fujikura, World Health Organization, Geneva, on behalf of the Director-General, Dr H. Mahler. Dr Fujikura thanked the International Society for Human and Animal Mycology (ISHAM) for its continued involvement with the preparation of the WHO/ISHAM Guidelines for Diagnosis, Prevention and Control of Dermatophytoses in Man and Animals.

In the Report of the WHO/ISHAM Consultation on Dermatophytoses Common to Man and Animals¹ several recommendations were made which ISHAM will promote and implement.

Attention will be focussed on improving and developing the Joint WHO/ISHAM Medium-Term Programme on Dermatophytoses in Man and Animals outlined in the above report.

Professor D.W.R. Mackenzie was elected Chairman.

2. Review of WHO/ISHAM Medium-Term Programme

An outline of the joint WHO/ISHAM Medium-Term Programme on Dermatophytoses of Man and Animals has been provided as Annex 6 of the report¹. Progress in the implementation of this programme has been made as follows:

- (1) a new WHO Collaborating Centre for Mycotic Infections (deep mycoses) has been established at the Order of Lenin Institute in Leningrad (USSR) and is working, together with the WHO Collaborating Centre for Mycotic Infections at the Centers for Disease Control, Atlanta, Georgia, USA;
- (2) a list of specialists in the field is being compiled by means of an ISHAM questionnaire survey, which is directed at the production of a Register of Medical and Veterinary Mycology Training Centres and Opportunities. It is anticipated that the first edition of the Register will be available by May, 1985;
- (3) a WHO/ISHAM Consultation on Dermatophytoses Common to Man and Animals will be held in association with the 9th Congress of ISHAM in Atlanta, Georgia, USA, 18-19 May 1985; current and prospective joint WHO/ISHAM programmes will be discussed at the General Assembly of ISHAM on 23 May 1985.
- (4) current ISHAM initiatives being developed as part of the WHO/ISHAM medium-term programme include:
 - (a) a course on laboratory diagnosis of cutaneous mycoses, to be sponsored jointly by ISHAM and WHO, will be held in Thailand late 1986 or early 1987;
 - (b) a Conference on Paracoccidioidomycosis is being organized by ISHAM, to be held at Quirama, Colombia, late 1985 or early 1986: the Pan American Health Organization, Washington, D.C., USA, has been invited to participate;

¹ Report of WHO/ISHAM Consultation on Dermatophytoses Common to Man and Animals, Palmerston North, New Zealand, 6-7 February 1982 (a WHO document - VPH/82.35).

(c) the Council of ISHAM is considering organizing a Workshop on Mycotic Infections, to be held in Singapore at a date to be decided upon.

3. WHO/ISHAM strategies on mycotic diseases related to animals and animal products

3.1 Identification of the need for WHO involvement

Mycotic infections were recognized as important medico-social problems throughout the world in World Health Assembly Resolutions WHA 28.55 (1975) and 29.59 (1976)¹.

A WHO report giving a summary outline of the prevalence and public health significance of mycotic diseases was presented to the World Health Assembly in 1976². Although mycotic diseases are less important as causes of morbidity and mortality than diseases caused by other groups of pathogens, they are widely distributed throughout the world, at times abundant, and producing effects ranging from mild inconvenience to severe clinical disorder or death. Owing to the relative paucity of specialized diagnostic and therapeutic centres, knowledge on their prevalence and public health significance is incomplete. Their demonstrable debilitating effects and importance as causes of human suffering justify attention by the World Health Organization, with particular reference to implementation of the recommendations contained in WHA 28.55 and 29.59.

3.2 Identification of resources

The identification of resources is a prerequisite for the selection and initiation of valid programmes. The key resources needed for implementing existing and future WHO/ISHAM programmes are personnel and funding. ISHAM and WHO, working cooperatively, can identify needs and opportunities, recognize centres where the levels of competence and commitment are acceptable, and where cooperation with the WHO is potentially fruitful. Funding is of vital importance. Without identification of suitable sources of financial support no programme can be expected to yield results. The cooperation of ISHAM could be sought to identify such sources of funding for specific joint WHO/ISHAM programmes.

Some laboratories may be suited to undertake collaborative programmes, and may be eligible for recognition as a WHO collaborating centre on dermatophytoses. Interested individuals and centres who are potentially capable of assuming such responsibilities should first consider whether their laboratory complies with the requirements specified in WHO Basic Documents³. In the affirmative, and if they are willing to accept the commitments of a collaborating centre, they should communicate directly with the WHO and submit a written rationalization for recognition of their laboratory as a WHO collaborating centre (see WHO document VPH/82.35, Annex 6, 1.1).

¹ Handbook of Resolutions and Decisions of the World Health Assembly and the Executive Board, Vol. II, Fifth Edition, WHO, Geneva, 1983.

² Mycotic Diseases. Report by the Director-General. Twenty-ninth World Health Assembly, 1976 (A29/19).

³ WHO Basic Documents, 35th Edition, 1985.

3.3. Plan of action

3.3.1 Information exchange

All sources of information should be identified (e.g. Animal Health Statistics). ISHAM should be invited to assist with the compilation of data on dermatophyte infections. Information should also be generated from WHO collaborating centres.

Although some information could be acquired from published surveys, a valuable overview of the prevalence and public health significance of dermatophytoses could be obtained by one or more visits by a recognized expert to interested countries. In addition, the WHO could assist by officially recognizing regional experts, whose guidance and advice would be of value in assisting national authorities to plan programmes for prevention, control and therapy of dermatophytoses. Similar assistance could be anticipated from ISHAM. Members of ISHAM could be invited to submit data on the prevalence and public health significance of dermatophytoses in their countries.

3.3.2 Joint meetings

Promotion of intersectoral collaboration is an important element in any future medium-term programme. Cooperation could be anticipated from national farming and veterinary associations. Objectives for joint WHO/ISHAM programmes could be given formal consideration by such meetings as the World Congress of Dermatology in Berlin West in 1986, and the European Society for Veterinary Dermatology in the Federal Republic of Germany in 1986. Such international congresses would provide ideal opportunities for workshops and other scientific sessions dealing with prevention and control measures, and research in zoonotic dermatophytoses. Informal approaches should be made to Ministries of Agriculture or Food in Member States of the WHO, and in public health and veterinary public health services in the same countries. In the United Kingdom, such organizations as the British Veterinary Study Group, the Zoonoses Group of the Ministry of Agriculture, Fisheries and Food, and the Public Health Laboratory Service, can be recognized as groups whose expertise are likely to be of value in linking with the combined WHO/ISHAM programmes.

3.3.3 Joint training courses

Consideration should be given to the encouragement of meetings within regional areas by ISHAM and WHO, to discuss their needs and priorities. ISHAM's participation should be actively sought to assist with education and training. Workshops should be explored as a means of providing basic information, and should include such topics as the use of vaccines or antifungal agents. Other nongovernmental organizations, such as the International Council for Laboratory Animal Science (ICLAS) might participate in workshops or training programmes in zoonotic dermatophytoses. It might prove feasible to hold such a workshop or course in association with the proposed WHO/ISHAM course in Thailand (late 1986 or early 1987).

Workshops or courses could be given either within a country or within a region. WHO Regional Offices could assist with their organization, e.g. the production of manuals. As with all training schemes, it is imperative that sources of funding be located beforehand.

The Register of Training in Medical and Veterinary Mycology presently being compiled by ISHAM can be expected to provide information on courses on medical and veterinary mycology currently available throughout the world.

3.3.4 Elaboration of Guidelines

The first draft of the Guidelines for the Diagnosis, Prevention and Control of Dermatophytoses Common to Man and Animals, being produced jointly by WHO and ISHAM¹, is being edited. Following circulation of the second draft, it is anticipated that some 2,000 copies of the completed Guidelines will be printed. The Guidelines will represent an important milestone in WHO/ISHAM's collaborative efforts, and will provide a framework for the construction of future programmes on epidemiology, prevention and control, and laboratory diagnosis.

3.3.5 Research promotion

Research programmes on dermatophytoses will constitute an integral part of the programme of collaborating centres. In view of anticipated financial constraints, studies on dermatophytoses should concentrate on data collecting, and particularly on pilot studies. ISHAM and WHO, jointly, could encourage such studies by linking existing clinical and laboratory resources where need and opportunity can be recognized. National research funding agencies should be advised of recommendations for research in dermatophytoses in high priority areas designated by WHO and ISHAM. Countries where little attention is focussed on mycology, but where considerable interest exists, include China, India and Sudan.

Examples of research programmes based on limited financial outlay include the following:

- (a) epidemiological and/or geographical markers of dermatophytes and their application to epidemiological studies;
- (b) rapid diagnosis of dermatophytoses;
- (c) susceptibility to animal ringworm - are there other predisposing causes, such as age, sex, contact opportunities and underlying conditions? Such studies could involve data collection and collation by questionnaire;
- (d) carriage rates of dermatophytes in cats or cattle;
- (e) mycotic abortion: prevalence and significance. Since many ISHAM members will be attending the 9th Congress of ISHAM in Atlanta (USA, May 1985), this would provide an opportunity to discuss collaborative WHO/ISHAM research and other programmes in dermatophytoses. It is therefore recommended that, in addition to consideration of WHO/ISHAM interactions at the Informal Consultation, the programme at the ISHAM Congress should include an open session devoted to WHO/ISHAM collaborative ventures, in general, and research programmes, in particular.

¹ WHO/ISHAM Guidelines on Diagnosis, Prevention and Control of Dermatophytoses in Man and Animals (in preparation, 1986).

3.3.6 Collaborative studies

Attempts should be made to assess the role of vaccines against dermatophytoses in cattle and other animals. The WHO could play an important role in promoting discussions between scientists with field experience of LTF-130 vaccines in Czechoslovakia, Hungary and the USSR, and scientists in other countries where these vaccines have not yet been widely used.

Collaborative studies are recognized as being the key to the successful planning and implementation of programmes directed towards compilation of data, training programmes, and research in specific areas (see 3.3.5).

3.4 Development of relations with other international organizations and nongovernmental organizations (NGOs)

The role of fungi in food contamination for consumption by man or animals has received little attention from international organizations. Joint attempts by WHO/ISHAM should be made to evaluate the need for cooperative studies on methodology in relation to the examination of foodstuffs for contamination by moulds and yeasts. Attempts should also be made to establish whether industry or other groups with a special interest in this area would be prepared to consider future programmes comparable to those outlined above. It is considered that such programmes could lead to the establishment of microbiological specifications, which could be of particular value to developing countries. Attention should be paid to the significance of mycotoxin residues in foodstuffs. WHO and ISHAM should identify mycotoxicologists who could be invited to identify the problem and suggest courses of action compatible with existing knowledge and financial constraints.

ISHAM should be invited to consider what links with other international organizations and NGOs are likely to be of value in implementing the programmes and approaches included in the WHO/ISHAM medium-term programme.

3.5 Delegation of cooperative tasks

It is understood that, in accordance with WHO's collaborative activities with nongovernmental organizations in official relations¹, assistance is sought from NGOs, and other organizations, with the implementation of programmes developed jointly with WHO. ISHAM should be invited to accept responsibility for the implementation of those programmes considered feasible and for recommending mechanisms to establish productive cooperation between veterinary and medical personnel regarding problems resulting from dermatophytoses and other mycotic zoonoses. ISHAM, as an NGO, is in official relations with WHO. It would be advantageous for the relationship between ISHAM and WHO to be reviewed from time to time at any appropriate consultative meetings of WHO and ISHAM.

It is recommended that working groups be established with responsibility for activities in selected areas of medical and veterinary mycology, with particular reference to zoonotic dermatophytoses. Recommended activities are as follows:

¹ WHO's Collaborative Activities with Nongovernmental Organizations in Official Relations, WHO, Geneva (CWU/85.1).

- (a) epidemiology (including zoonoses, and modes of transmission);
- (b) diagnostic procedures: current developments;
- (c) immunology: vaccines and immunological mechanisms of susceptibility and resistance;
- (d) cost-benefit analysis of methods for diagnosis, prevention and control;
- (e) mycotoxicoses;
- (f) taxonomy and nomenclature of pathogens and mycoses;
- (g) audio-visual programmes: taking of specimens, etc.

The selection of working groups and monitoring of progress could be principally the responsibility of ISHAM, with final responsibility to WHO.

3.6 Financial aspects

These can be considered only in relation to individual programmes as outlined above. Financial implications must be considered as an integral element of all future WHO/ISHAM collaborative programmes, together with indications of potential sources of fundings.

4. Other related matters

Attempts should be made to establish information on the worldwide distribution of dermatophytoses in animals and man, following the precedent established in the document "A Guide to the Diagnosis, Treatment and Prevention of Human Brucellosis", Annex III¹. ISHAM's participation should be recruited in preparing such estimates.

Consideration should be given to existing disparities in nomenclature between the CIOMS Nomenclature of Mycoses of the Council for International Organizations of Medical Sciences², and the similar list published by ISHAM.³ In future relationships between WHO and ISHAM, a guiding principle should be to establish and maintain a formal dialogue. WHO should be kept informed of ISHAM activities and the ISHAM Council should be invited to keep the WHO informed of existing and future activities. The ISHAM Council could assist WHO with the placing of individuals requiring specialized technical training in mycology. Such placings could be substantially facilitated by the existence of the Register of Training in Medical and Veterinary Mycology currently being drawn up by ISHAM.

The possibility of incorporating a "proposed list of actinomycotic and mycotic zoonoses" in the above Guidelines for the Diagnosis, Prevention and Control of Dermatophytoses in Man and Animals should be considered.

Professor Charles de Vroey is to be invited to participate in the final editing of the Guidelines.

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¹ A Guide to the Diagnosis, treatment and Prevention of Human Brucellosis, WHO, Geneva, 1981 (VPH/81.31, Rev. 1).

² International Nomenclature of Diseases, Vol. II. Infectious Diseases, Part 2: Mycoses. 1st edition. A joint project of the Council for International Organizations of Medical Sciences and the World Health Organization, CIOMS, Geneva, 1982.

³ Nomenclature of Mycoses. *Sabouraudia*, 18, 78-84, 1980.



ANNEX

LIST OF PARTICIPANTS

Dr R. J. Hay
Department of Medical Mycology
London School of Hygiene and Tropical Medicine
Keppel Street (Gower Street)
London WC1E 7HT

Dr (Mrs) Mary Howell
Food Science Division
Ministry of Agriculture, Fisheries and food
65 Romney Street
London SW1P 3RD

Dr D. Lloyd
The Royal Veterinary College
Royal College Street
London NW1 0TO

Professor D.W.R. Mackenzie (Chairman)
Mycological Reference Library
London School of Hygiene and Tropical Medicine
Keppel Street (Gower Street)
London WC1E 7HT

Dr G. A. Pepin
Mycology Laboratory
Central Veterinary Laboratory
New Haw
Weybridge, Surrey KT15 3NB

WHO Secretariat

Dr T. Fujikura (Secretary)
Veterinary Public Health
Division of Communicable Diseases
World Health Organization
1211 Geneva 27
Switzerland