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REGIONAL OFFICE FOR THE
EASTERN MEDITERRANEAN

BUREAU RÉGIONAL DE LA
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Agenda item 14

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ORIGINAL: ENGLISH

SMALLPOX CONTROL

I SMALLPOX, A WORLD PUBLIC HEALTH PROBLEM

There is no doubt that smallpox is still a public health problem in many parts of the world. Many endemic foci are scattered in three of the five continents. From the available data on reported smallpox, roughly three million cases and more than one million deaths have been recorded from all over the world during the last seventeen years.

It must be emphasized, however, that the reported incidence by no means reveals the actual situation. Much smallpox occurs either undetected or unrecorded. The disease continues to be a permanent threat to the lives of millions of people and a continuous menace to all countries.

In 1948, about 157,000 cases were notified in the world (outside China and the Union of Soviet Socialist Republics) including 26,000 in Africa, 30,000 in America and 101,000 in Asia; about 73,000 of these were reported in India and 13,000 in Pakistan.

In 1957 some 136,000 were notified to the Organization, of which about 32,000 were in Africa, including about 12,500 in French West Africa, 9,000 in Nigeria and 5,000 in Sierra Leone. In South America, the majority of the 3,500 cases were in Colombia, Bolivia, Ecuador and Brazil. Of the 101,000 cases in Asia, 67,000 were reported from India and 26,000 from Pakistan.

In recent years, a declining incidence has been reported in South America (especially in Peru, Venezuela, Colombia and Argentina), in the southern part of Africa (Federation of Rhodesia and Nyasaland, Mozambique, Union of South Africa), and in Korea, Viet-Nam, Cambodia and Afghanistan, in Asia.

II SMALLPOX IN THE EASTERN MEDITERRANEAN REGION

Although smallpox appears in all the continents of the world, it is well known that the endemic foci of this disease lie mainly in Africa, Asia and South America. The Eastern Mediterranean Region lies within two of these three continents. Studies on the distribution of smallpox show that it is endemic in a number of countries in this Region. In view of the volume of international traffic, especially by land, where quarantine barriers between the countries are practically non-existent, smallpox epidemics frequently occur in countries adjacent to the endemic areas.

The annexed chart provides information from records of the Organization on cases of smallpox reported in this Region from 1948 to 1957.⁽¹⁾

A brief survey of the extent of the smallpox situation shows that during the last ten years about 177,000 cases were reported from countries in the Eastern Mediterranean Region, of which more than 140,000 cases were recorded in Pakistan.

Smallpox has been reported practically every year from: Iran, Iraq, Pakistan, Saudi Arabia and Sudan. An outbreak of smallpox occurred in Yemen towards the end of 1957 and cases are still reported from that country. However, the absence of detailed reports does not permit an accurate picture of the incidence of the disease.

III SMALLPOX DUE TO IMPORTED CASES

Owing to the geographical situation of certain countries and territories of the Eastern Mediterranean Region on international trade routes, imported cases of smallpox are frequently reported. In addition, smallpox cases sometimes pass weak quarantine barriers at the boundaries from a country where the disease is endemic to an adjacent country where smallpox does not exist.

In 1956 and 1957, smallpox cases were brought in and secondary foci started in several countries of the Eastern Mediterranean Region which had been free from smallpox for two or more consecutive years: Lebanon 192; United Arab Republic: Egyptian Region 1, Syrian Region 41; Aden Colony and Protectorate 71; Bahrein 68; Qatar 6; Kuwait 31; Muscat and Oman 26; and Trucial Oman 3.

(1) For a survey of smallpox in the countries of the Eastern Mediterranean Region see: RC4/EM/7 (Annex) and EM/RC6/10.

It may be of interest to note that in the rest of the world only four similar foci were reported: three in Europe and one in Ceylon in South East Asia.

IV CAMPAIGNS AGAINST SMALLPOX

The subject of smallpox control has featured prominently in the deliberations of the World Health Assembly, the Executive Board and Regional Committees.

The Third World Health Assembly recommended that greater weight should be given to smallpox in the regular programme of the World Health Organization.

The Executive Board at its eleventh session considered that a campaign against smallpox was a suitable subject for a world-wide programme.

The Sixth World Health Assembly after considering the resolutions of the Executive Board requested the Board to proceed with a detailed study of the means of implementing such a campaign.

At the request of the Executive Board, the Director-General consulted with Member States, WHO Regional Committees and members of Expert Advisory Panels and reported to the thirteenth session of the Board which requested the Director-General to urge health administrations to conduct campaigns against smallpox as an integral part of public health programmes and to include additional studies on smallpox in his future programmes.

The Seventh World Health Assembly considered the results of the study carried out by the Executive Board and requested the Director-General to continue studies on effective methods of smallpox control in those countries where the disease is endemic, to urge health administrations to continue their efforts to control smallpox, and to provide within budgetary limitations, such assistance as might be required for this purpose.

The Director-General called the attention of all Member States to these resolutions as a result of which new requests for assistance were received from a number of countries, many of which have been or are in the process of being implemented.

After considering the report of the Director-General on the progress made in this field, the Eighth World Health Assembly again urged health administrations to conduct, where necessary, campaigns against smallpox as an integral part of their public health programmes.

In pursuance of the resolutions of the World Health Assemblies, the Regional Director placed the matter before the Regional Committee for the Eastern Mediterranean at its fourth session, asking the Committee to comment on the general programme of work and discuss the state of existing national smallpox control services in the countries of the Region, their specific difficulties and weaknesses and, particularly, make recommendations as to the kind of coordinated regional and national activities which should be considered in implementing campaigns against smallpox with the assistance of the World Health Organization.

Sub-Committee A of the Regional Committee responded, after discussion, by requesting the Regional Director to provide countries with such consultant and other services as they might request for the preparation of national and inter-country programmes for the control of smallpox.

In order to provide countries with the appropriate assistance in their campaigns against smallpox and considering that in the opinion of most of the epidemiologists, vaccination is the most effective measure for the control of smallpox, the Regional Director collected data from all countries in the Region with regard to the availability of a smallpox vaccine institute in each country and the existing legislation on compulsory vaccination and revaccination.

Among the several matters arising from the material assembled by the Regional Director, the following are particularly noted:

1. Ten of the fifteen countries which responded to the Regional Director's questionnaire have eleven institutes which prepare smallpox vaccine lymph in amounts which meet the national needs of these countries. Two more institutes are also known to exist in other countries in the Region.

2. In some of the institutes in the Region, the production of dried smallpox vaccine would be possible if these institutes were assisted with technical advice and equipment.

3. Primary vaccination against smallpox is compulsory by law in all countries in the Region except Cyprus.

4. The technique of smallpox vaccination, the time-table for vaccination, revaccination, post-vaccinal inspection, as stipulated in different national legislation or regulations, vary from country to country.

SMALLPOX VACCINATION

From the studies undertaken on the subject of smallpox control, it was revealed that the true nature of the problems requiring solution before this disease could be eradicated, as well as their relative importance, varied from country to country.

There was however one difficulty common to almost all the countries of this region, that of ensuring the potency of the vaccine at the time of vaccination under the difficult conditions of climate and communications prevailing in these countries. The availability of a stable dried vaccine which could withstand prolonged exposure under these conditions would clearly solve this specific problem, although it has to be recognized that in many countries lack of such a vaccine is not the only reason for the failure to control smallpox. Other problems have also to be solved before successful results are achieved, such as insufficient development of health services, or public resistance to vaccination.

However, it was generally agreed that the free availability of a reliable dried smallpox vaccine that has been shown to be resistant to high temperatures was urgently needed in countries with a hot climate and a high incidence of smallpox.

In 1952, therefore, WHO initiated a programme of research designed to determine the stability of existing dried vaccines and if these were found to be inadequate or inconsistent in their behaviour, to find a method of production which could be relied upon to produce consistently a stable product.

The progress of these studies was discussed at the Ninth World Health Assembly and, as requested by the Assembly, a report giving details of their successful conclusions was submitted to the Tenth World Health Assembly which recommended that countries should take advantage of the availability of an improved method of production of a stable dried smallpox vaccine whenever the use of such a vaccine would be advantageous.⁽²⁾ The results of these studies have been published by the Organization⁽³⁾ and the Regional Director submitted to the Regional Committee at its Seventh Session a summary of results of the studies on dried smallpox vaccine and of the new method of preparation of a stable dried smallpox vaccine.⁽⁴⁾

(2) Resolution WHA10.37

(3) Bulletin, World Health Organization (1957), 16, 64-77

(4) EM/RC7/5 and Annex I.

Five countries in this Region have already used the new dried vaccine in their campaigns against smallpox during the past few months, and the Regional Director is collecting information on the results achieved by using this vaccine.

Sub-Committee A of the Regional Committee for the Eastern Mediterranean at its Seventh Session called upon Governments to review their existing services for smallpox control and health legislations with regard to systematic primary vaccination and re-vaccination, and to introduce the necessary improvements in these services and legislations, with particular reference to periodic mass re-vaccination every three to five years.⁽⁵⁾

Sub-Committee A also called upon countries to consider the establishment of units for the production of the new dried smallpox vaccine in their laboratories, requesting the Regional Director, whenever appropriate, to assist Member States in the production of dried smallpox vaccine.⁽⁶⁾

Seven lyophilization apparatus were requested by Member States in the Region, and the Regional Director has already supplied five and arrangements regarding the procurement of the other two apparatus are underway.

VI ERADICATION OF SMALLPOX

Noting that smallpox still remains a dangerous infectious disease in the world, the Eleventh World Health Assembly discussed the problem in detail and reviewed the decisions taken by the preceding Assemblies and the measures adopted by WHO for the control and intensification of anti-smallpox programmes.

The Eleventh World Health Assembly subsequently adopted a resolution⁽⁷⁾ requesting the Director-General to study the financial, administrative and technical implications of a programme having as its objective the eradication of smallpox. The Assembly also recommended to all governments that during 1959-1960 the population be vaccinated in countries in which principal endemic foci of smallpox exist and that during the following two years additional vaccination of the population should be carried out in foci where the disease persists, and that subsequently re-vaccinations be given to the extent it becomes necessary in accordance with the experience acquired in each country. In

(5) EM/RC7A/R.12

(6) EM/RC7A/R.13

(7) Resolution WHA11.54

countries where smallpox vaccination is compulsory, the Assembly recommended that smallpox vaccinations should be continued during the eradication of the disease throughout the world.

It is worthy of note that two Governments have already contributed to the world smallpox eradication campaign by offering voluntarily gifts of smallpox vaccine: the Government of the Republic of Cuba offered two million doses of smallpox vaccine annually (partially dried vaccine) and the Government of the Union of Soviet Socialist Republics is making available to the Organization, as a gift, 25,000,000 doses of dried smallpox vaccine.

ANNEX

CASES OF SMALLPOX REPORTED IN THE COUNTRIES OF THE EASTERN MEDITERRANEAN REGION
1948 - 1958

COUNTRIES	: 1948	1949	1950	1951	1952	1953	1954	1955	++ 1956	++ 1957	FIRST QUARTER 1958
ADEN COLONY	: 2A	7A	4A	2A	-	-	67	-	-	13	54
ADEN PROTECTORATE	: -	-	-	-	-	-	-	-	-	58 (21)	72 (25)
BAHREIN	: -	17	13	-	-	-	-	-	61	7	-
ETHIOPIA AND ERITREA	: 43	15	62	44	80	188	368	283	545	452	77
IRAN	: 1182	509	439	286B	237	148	83	540	1616	1008	116+
IRAQ	: 1740	707	272	469	157	251	22	72	2173 (1)	1919 (7)	6 (2)
ISRAEL	: D	14	11	1	-	-	-	-	-	-	-
JORDAN	: 42	194	134	-	-	-	-	-	-	2	-
KUWAIT	: D	D	D	D	D	D	D	-	8	23	D
LEBANON	: 175	142	4	-	-	-	-	-	144	148	-
LIBYA	: 216	-	-	-	-	-	-	-	-	2	-
MUSCAT AND OMAN	: D	D	D	D	D	D	D	-	22	4	D
PAKISTAN	: 12524	4807	22478	34620	14589	5065	2497	3261	5346	25946	18566
QATAR	: D	D	D	D	D	D	D	-	4	2 (1)	D
SAUDI ARABIA	: D	225	331	1	-	152	5	1	9	73	71
SOMALILAND (British Protect.)	: -	-	-	-	-	240	818	-	-	3	-
SOMALILAND (Italian Adm.)	: -	-	-	-	-	-	737	193	5	-	D
SUDAN	: 1412	246	83	164	1250	3545	5326	2471	438	264 (3)	23
TRUCIAL OMAN	: D	D	D	D	D	D	D	-	3	5	D
UNITED ARAB REPUBLIC: EGYPT	: 16	3	9	2	-	-	-	-	1 (1)	2 (1)	-
SYRIA	: 902	646	14	2	2	3	7	-	-	41 (41)	-
YEMEN	: D	D	D	D	D	D	D	D	D	KD	KD

() figures between brackets are imported cases and are included in the totals

A imported

B 50 weeks

D data not available

K epidemic

+ provisional figures received by telegrams

++ provisional figures

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BUREAU RÉGIONAL DE LA
MÉDITERRANÉE ORIENTALE

REGIONAL COMMITTEE FOR THE
EASTERN MEDITERRANEAN

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Eighth Session

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Agenda item 12 and 14

ERADICATION OF SMALLPOX

1. The problem of smallpox and its control was given particular attention during the Seventh Session of the Regional Committee for the Eastern Mediterranean, and Sub-Committee A adopted a resolution,⁽¹⁾ calling upon the Governments of Member States to review existing services for smallpox control and health legislations with regard to systematic primary vaccination and revaccination, and to introduce the necessary improvements in these services and legislations, with particular reference to periodic mass revaccination every three to five years.

2. The Eleventh World Health Assembly discussed in detail the question of eradication of smallpox and after reviewing the previous measures undertaken by the Organization for an anti-smallpox campaign, adopted the following resolution.⁽²⁾

The Eleventh World Health Assembly,

Noting that smallpox still remains a very widespread and dangerous infectious disease and that in many regions of the world there exist endemic foci of this disease constituting a permanent threat of its propagation and consequently menacing the life and health of the population;

Having regard to the economic aspect of the question, which shows that the funds devoted to the control of and vaccination against smallpox throughout the world exceed those necessary for the eradication of smallpox in its endemic foci and consequently the destruction of the sources from which the infection arises and spreads, and clearly indicates that the eradication of smallpox might in future make vaccination and all expenditures involved in its application redundant;

Taking into account the level of development reached by medical science and the health services in the control of infectious diseases, and in particular of smallpox, and the manifest tendency of the morbidity of smallpox to diminish in recent years;

(1) EM/RC6A/R 10

(2) WHA11.54

Having regard to the decisions and pertinent practical measures adopted by WHO for the control and intensification of anti-smallpox programmes, in particular resolutions WHA3.18; EB11.R58; WHA6.18; EB12.R13; EB13.R3; WHA7.5; WHA8.38; WHA9.49, and

Considering it opportune to raise the problem of the world-wide eradication of smallpox in the near future;

1. REQUESTS the Director-General to study and report to the Executive Board at its twenty-third session on the financial, administrative and technical implications of a programme having as its objective the eradication of smallpox, the study to include the various problems involved in carrying out the following activities:

- (a) investigation of the means of ensuring the world-wide eradication of smallpox, taking into account the fact that smallpox persists in certain areas despite repeated vaccination campaigns;
- (b) encouragement of the preparation during 1958-1960 of the necessary amount of smallpox vaccine in national laboratories and institutes;
- (c) training of vaccinators among the local population in countries in which mass immunization campaigns will be conducted;
- (d) the pooling of experience and the formulation of recommendations for the production of a sufficient amount of thermostabile smallpox vaccine suitable for prolonged storage and use in tropical and sub-tropical regions of the world, and
- (e) study of the measures to be taken in order to avoid complications which might result from smallpox vaccination;

2. RECOMMENDS to all governments:

- (a) that during 1959-1960 the population be vaccinated in countries in which principal endemic foci of smallpox exist, and
- (b) that during 1961-1962 additional vaccination of the population should be carried out in foci where the disease persists, and that subsequently revaccinations be given to the extent it becomes necessary in accordance with the experience acquired in each country;

3. RECOMMENDS that all countries in which smallpox vaccination is compulsory continue to give smallpox vaccinations during the eradication of this disease throughout the world;

4. CALLS upon medical scientists and scientific institutions active in the field of microbiology and epidemiology to stimulate their efforts towards improving the quality and the technology of the production of satisfactory smallpox vaccine resistant to the influence of temperature, and

5. REQUESTS the Director-General to report to the Twelfth World Health Assembly on the progress made and the results obtained.

In carrying out the study for the Executive Board requested in paragraph 1 of the resolution, the Director-General will have need of additional information which must be obtained from Member States. Precise details of the required information have been compiled, and the cooperation of the Committee would be of great help in ensuring the speediest possible collection of accurate data so that the document for the Executive Board will be as realistic and useful as possible.

With reference to paragraph 4 of the resolution the Regional Committee will recall that at its seventh session, the Regional Director submitted a document⁽³⁾ on Dried Smallpox Vaccine and its advantageous use in countries in this Region. In Annex I to this document a description was given of the new⁽⁴⁾ method of producing consistently a stable dried vaccine which had been made available to the Organization. Sub-Committee "A" after discussion, adopted the following resolution:⁽⁵⁾

DRIED SMALLPOX VACCINE

The Sub-Committee,

Noting with much interest that a method of preparation of dried smallpox vaccine is now available, which ensures a product stable for an adequate length of time under the extreme conditions likely to be met with in hot climates (EM/RC7/5);

1. CALLS UPON countries to consider the establishment of units for the production of the new dried smallpox vaccine in their laboratories;
2. REQUESTS the Regional Director, whenever appropriate, to assist Member States in the production of dried smallpox vaccine by providing the necessary technical advice and by supplying equipment within budgetary limitations.

The Regional Director has the honour to draw the attention of the Committee particularly to the operative paragraphs of the above-mentioned resolution of the Eleventh World Health Assembly, and reiterates that the full cooperation of governments of countries of the Region is essential if the objectives of the resolution are to be achieved.

(3) EM/RC7/5 - See also resolution WHA10.37, paragraph 2

(4) Document WHO/Smallpox/7

(5) EM/RC7A/R.13