WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

ORGANISATION MONDIALE DE LA SANTÉ

BUREAU RÉGIONAL DE LA MÉDITERRANÉE ORIENTALE

REGIONAL COMMITTEE FOR THE EASTERN MEDITERRANEAN

Ninth Session

EM/RC9/5
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ORIGINAL: ENGLISH

Agenda item 15 (b)

SMALLPOX CONTROL

I INTRODUCTION

Smallpox, which has always been an important public health problem in many countries of the Eastern Mediterranean Region, still continues to be a serious challenge despite the fact that for more than a century and a half a preventive measure of the highest efficacy - active immunization against the disease - has been available.

Since the introduction of Jenner's antismallpox vaccination, many countries have succeeded in becoming practically free from smallpox, but in many tropical and sub-tropical areas the disease still persists and because of unfavourable climatic conditions, lack of well-developed administrative and technical facilities, it has not been easy to exert control.

It is generally agreed that the true nature of the problems requiring solution before this disease can be eradicated varies from country to country.

There are, however, two main difficulties common to almost all the countries where the disease still persists, that of ensuring the potency of the vaccine at the time of vaccination, and the organization and administration of an effective smallpox vaccination programme. With the introduction of the new thermostable vaccine, the control of smallpox should now present no insuperable problem.

Mass Vaccination campaigns are considered the most effective procedure for the control and eradication of the disease in these areas. Persistence of smallpox in a focus, in which mass vaccination has been undertaken, can nearly always be explained by the fact that the campaign was not complete and the coverage of the area concerned was only patchy.

There is general agreement at present that eradication of smallpox from an endemic area can be accomplished by successfully vaccinating or revaccinating 80 per cent of the population within a period of less than five years, and information is now available that campaigns can be successfully carried out among communities at different stages of social development, in areas with poor means of communication and under unfavourable climatic conditions.

The Regional Committee, at its seventh session, noting the availability of a new method of preparation of a thermostable smallpox vaccine, called upon the countries in the Region to consider the establishment of units for the production of the new vaccine and requested the Regional Director to assist Member States in this regard.

II SMALLPOX ENDEMIC AREAS IN THE EASTERN MEDITERRANEAN REGION

In this Region smallpox has been and still is a major public health hazard. The Eastern Mediterranean area lies geographically within two of the three continents where smallpox infection still persists.

Epidemiological reports which are received from health administrations show that the disease has been recorded in practically every country in this Region during recent years. The disease seems to be endemic in at least six of the countries where epidemics flare up occasionally.

A chart providing information on the incidence of smallpox in the endemic areas of the Region during the past three years is annexed.

III IMPORTED INFECTION

Imported cases of smallpox are frequently reported in the Eastern Mediterranean Region owing to the geographical location of many of its ports and airports on the main routes of international traffic.

Travellers, such as pilgrims, who usually take part in periodic mass congregations, are a further potential cause of importation of infection to areas so far free from the disease. Secondary foci may thus be produced.

In addition, the fact that land sanitary barriers both within the Region and between it and neighbouring regions are in some cases practically non-existant, aggravates the situation, as infection is brought from one country to another without its being detected.

During the past three years, many cases were brought into the Eastern Mediterranean Region, sometimes starting secondary foci in areas where the disease had not existed, and other parts of the world became infected from smallpox originating in this Region.

Imported to:	From:
Aden Colony	Yemen
Aden Protectorate	Yemen
Bahrein	*
Federal Republic of Germany	? Pakistan or India
Greece	Sudan
Iran	unspecified neighbouring countries (? Iraq, Afghanistan, Pakistan)
Iraq	Muscat and Iran
Iraq	*
Jordan	Lebanon
Kuwait	*
Lebanon	Iraq
Muscat and Oman	*
Pakistan	Burma
Pakistan	Ceylon ?
Pakistan	Saudi Arabia
Qatar	*
Sudan	West Africa, Eritrea
Trucial Oman	*
UAR (Egypt)	India
UAR (Egypt)	Iran
UAR (Egypt)	? Kuwait, India
UAR (Egypt)	Saudi Arabia
UAR (Egypt)	South Africa
UAR (Syria)	? Iraq

* Not stated, probably from neighbouring countries.

IV SMALLPOX ERADICATION CAMPAIGN

The subject of smallpox control has been repeatedly discussed during the previous sessions of the Regional Committee for the Eastern Mediterranean. Many important resolutions have been adopted by the Committee regarding the appropriate measures recommended to be taken by Member States in this Region for effective control of the disease, vaccination and revaccination campaigns and production and use of the newly introduced freeze-dried smallpox vaccine.

Noting that smallpox still remains a dangerous infectious disease in the world, the Eleventh World Health Assembly discussed the problem in detail and resolved, in June 1958, that immediate efforts should be made to eradicate smallpox from the world(1).

The Assembly also requested the Director-General to study the financial, administrative and technical implications of a programme having as its objective the eradication of smallpox.

In pursuance of the Assembly's resolution, the Regional Committee for the Eastern Mediterranean emphasized, during its Eighth Session, that every effort should be made to eradicate smallpox in the countries of the Region, recommending the organization of preventive campaigns by the Governments of Member States of the Region.

The Regional Committee also called upon Member States to provide the Director-General with the information required for the study of the various implications of a smallpox eradication programme(2).

In January 1959, a report was prepared and presented by the Director-General to the Executive Board. The Board noted this report, recommended to those countries where smallpox is still present to take steps to ensure the provision of a potent and stable vaccine and to organize eradication programmes along the guide lines provided by the report of the Director-General.

The Board also requested the Director-General to provide assistance to national administrations for the different aspects of the organizations and development of eradication programmes(3).

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(1) WHA11.54
(2) EM/RC8/R.4
(3) EB/23.R.71

In order to review the problem of smallpox as it exists at the present time and to set out the essential factors of smallpox eradication programmes, information was collected from the various countries.

Following is a summary of the information received from the health administrations of the countries and territories of the Eastern Mediterranean Region:

1. Proportion of the population successfully vaccinated against smallpox during the last five years.

Aden Colony - During 1958, 112,252 vaccinations were performed which is equivalent to 80 per cent of the population.

Aden Protectorate - It is considered that about 450,000 persons, rather more than about half the population, have not been vaccinated within 4 years. It is intended to do 200,000 more over the next two years.

Ethiopia - 90 per cent in urban areas - 10-30 per cent in rural areas.

Iran - 78.5 per cent in the area of a recent mass campaign which has covered 16 million out of a total population of 19 million, i.e. approximately 73.6 per cent of the total population protected to date. Campaign continues.

Iraq - 25 per cent.

Israel - Infants 0-4 years: 60-80%
Adults 18-24 years 95%
New immigrants 100%
} Estimated that 60% of total population is covered

Lebanon - 90 per cent.

Pakistan - West Pakistan: satisfactory smallpox control programme is already in existence in former provinces of Punjab and N.W.F.P., and vaccination index is above 80 per cent in most of the districts. The conditions are not satisfactory in certain units of former provinces of Sind and Balutchistan and former States of Khairpur, Bahawalpur and Balutchistan States Union.

East Pakistan: The vaccination status in the province is fairly good. Attempts are made to cover as much of the population as possible in the endemic areas.

Sudan - 14 per cent.

Tunisia - 100 per cent.

UAR (Syria) - 100 per cent.

2. Acceptance of vaccination by the public

Populations, in general, accept vaccination willingly. Ethiopia, Lebanon, Sudan, Tunisia and UAR (Province of Syria) report no difficulties at all. Iran has had rare cases of generalized vaccinia in summer, but even so acceptance is good. In Israel resistance for religious reasons or apathy is occasionally encountered, but to no serious extent. In Iraq, people fasting for Ramadan sometimes refuse vaccination by day, but are willing to be vaccinated at night, so the problem can easily be resolved. A few mothers believe vaccination is injurious to babies less than one year old. Health education services are trying to overcome these difficulties. Apathy and ignorance of parents are reported as causes of resistance to vaccination in West Pakistan.

3. Administration of smallpox control

Smallpox services, in practically all countries, are an integral part of the general public health services, controlled by the Health Ministries.

In Ethiopia a mass campaign is already proposed, but it is expected that it will take "many years" to reach all the people as health centres do not at present extend over the whole country, and some areas are inaccessible most of the year. For this same reason, follow-up campaigns to maintain the state of immunity (if achieved) will be difficult. The first need is to expand health services generally.

In Iran, a mass campaign is actually under way. It started two and a half years ago and is expected to end in six months, when the whole country will have been covered. Plans are already made for continuation of the programmes to maintain the state of immunity in years to come.

Iraq has mobile teams working throughout the country. A mass campaign started eighteen months ago and will continue for another eighteen months, by which time the entire population will be covered. Plans have been made to repeat vaccination of the entire population twice more in the following six years to maintain immunity.

Israel could arrange a mass campaign to cover the entire population in three months. If considered very urgent, it could even be done in fourteen days. The Government health services could also handle the necessary follow-up campaign for maintenance of immunity.

In Lebanon, the whole population could be covered in three months and the necessary follow-up programme could also be handled.

In West Pakistan, a scheme is already with the Provincial Government for smallpox eradication programme in Khairpur and a similar scheme for Quetta/Kalat is in preparation. The arrangements are satisfactory in the former provinces of Punjab and the N.W. Frontier.

The total vaccination staff strength is 1631. When the disease assumes epidemic proportions, the services of other sanitary staff are also utilized for vaccination in which they are trained. Annually, about 600,000 grammes of lymph are consumed with a production cost of Rs.125,000.

The rural population in West Pakistan can only be approached and vaccination work properly supervised if at least one jeep is available for each district for the smallpox eradication programme. The minimum requirement for this purpose is therefore 50 jeeps and 50 motorcycles.

In the Sudan, the Ministry of Health works through the Provincial Medical Officers to control smallpox. They could run a mass campaign, which would take one to two years. They could also handle the necessary follow-up.

The Government public health services in Tunisia are in effect already running an eradication campaign. The entire population is protected by a system of quinquennial vaccinations which are compulsory. They do not feel any special action is therefore needed. They could vaccinate the entire population in four months if this were necessary.

Province of Syria, UAR, has a smallpox division in each of the Mohafazats. Vaccination is compulsory and a mass campaign took place a year ago. In one and a half months if necessary the whole population could be vaccinated again.

4. Cost of smallpox vaccination

Iran, where a smallpox campaign is actually in progress, is the only country which has been able to estimate the cost per person vaccinated. The average cost per person in Iran for the first million was 6 Rls. It is expected that the final average cost will be less than this.

In Ethiopia, while no average individual cost is suggested, it is estimated that a mass campaign could cost E$. 354,800 for the first year and E$ 289,000 in subsequent years.

Tunisia tentatively suggests that the cost per person might be about ten Tunisian francs.

5. Personnel for vaccination

In Aden Protectorate, both the staff and training exist. No extra requirements for staff are envisaged. Doctors, health assistants, nurses, MCH staff and sanitary staff do the vaccination as a routine whenever opportunity offers. Routine vaccination is offered to all non-vaccinated who attend the seven state hospitals and seventy health units in the Protectorate. In rural areas, routine vaccination is carried out by two mobile sanitation units.

Personnel seems to be a problem in Ethiopia, where there is no full time staff working on smallpox. Physicians, nurses and dressers do routine vaccination together with other duties. The country has no field workers. They could not possibly vaccinate the whole country in two years. First they will need sufficient funds in the budget to provide staff for a permanent control service through health centres. If this is possible, they plan a three-week training course in the nearest provincial hospital for vaccinators when recruited.

Iran has recruited 250 full-time vaccinators for its mass campaign and gives them at least one month for formal training.

Iraq employs at present 172 permanent and 25 temporary full-time vaccinators, who receive two to four weeks of formal training. As many additional staff as needed can be found.

Israel has no full-time vaccinators, routine vaccination being done by physicians and nurses as required. If necessary for a mass campaign adequate staff could be found, amongst existing health services.

Lebanon has no full-time vaccinators, routine vaccination is done by doctors, nurses, midwives and auxiliary medical personnel. For a mass campaign, if necessary, adequate staff could be found, using health services and voluntary bodies.

In the former provinces of Punjab and the N.W. Frontier in West Pakistan, vaccination staff is adequate, while in the other parts in West Pakistan, not only is the staff insufficient, but there are no adequate arrangements for registration of births and prompt notification of cases of smallpox.

Sudan employs full-time vaccinators only temporarily and in emergencies, otherwise routine work is done by doctors, health visitors and medical assistants, together with their other duties. For a mass campaign an adequate number of these temporary vaccinators could be recruited.

In Tunisia, most vaccinations are done by travelling nurses, school nurses and supplementary staff specially trained for such work. Their permanent nurses, midwives, teachers, mobile health teams, etc. are much too busy with their normal tasks to take part in a mass campaign against smallpox. If such a campaign were necessary, volunteer vaccinators would be specially recruited and trained. A special course of one month would be organized. Tunisia has permanently about 100 vaccinators in service.

The Province of Syria, UAR, has 96 full-time vaccinators in a special separate smallpox service. They are trained in formal courses of one and a half to three months. They are in the same category as nurses, and paid on the same scale. If it were considered necessary to vaccinate the whole population again, additional vaccinators could be made available from health services and schools.

The following countries give estimates of the number of vaccinations carried out per vaccinator:

Iran		22,000 per annum
Iraq	40 per day	12,480 " "
Tunisia	150 " "	46,800 " "
UAR (Syria)	50 " "	15,600 " "

6. Smallpox vaccine(1)

Country	Sources of vaccine	Quantities produced annually at present			Maximum quantities that could be produced
		Lister dried	Other dried	Glycerinated	
Aden Protectorate	wet vaccine is obtained from Veterinary Dept. Asmara. Dry vaccine from the Lister Institute				
Ethiopia	Institut Pasteur d'Ethiopie	Not yet	-	5 million	both dried and glycerinated could be produced up to any amount needed
Iran	Institut Pasteur d'Iran, Teheran	trials only at present		14 million	Not yet foreseeable how much dried vaccine could be produced - up to 20 million doses glycerinated
Iraq	All vaccine imported at present, but will resume own production soon	-	-	5 million	up to 7.5 million glycerinated
Israel	Ministry of Health Central Laboratory	-	-	1-1.5 million	2 million glycerinated (dried vaccine not necessary)
Lebanon	Imported from Italy and Switzerland, also some produced by American University, Beirut				

(1) For more data regarding smallpox vaccine, vaccination and legislation on this subject in the countries of the Region, see EM/RC7/4.

Country	Sources of vaccine	Quantities produced annually at present			Maximum quantities that could be produced
		Lister dried	Other dried	Glycerinated	
Pakistan West	Lymph is manufactured at the Vaccine Institute, Lahore. During the summer this Institute moves to Murree Hills. Vaccine is potent, but due to inadequate storage facilities in the field as well as at district level, some loss of potency is inevitable.				
East	Nearly 2/3 lacs (100,000) doses of dry vaccine are being produced weekly at the Public Health Laboratory, East Pakistan, by the dry method. As the weekly demand is about 500,000 doses, the deficit is met by production of vaccine by the wet method. It is intended to meet the entire demand of the province with the dry vaccine in due course.				
Sudan	Stack Medical Research Laboratories	Not yet, but planned	-	2 million	2 million glycerinated
Tunisia	Institut Pasteur de Tunis	-	-	600,000	Could produce as much glycerinated as necessary (in the 6 weeks of the 1955 campaign produced 4 million doses)
UAR (Syria)	Ministry of Health Laboratory, Damascus	Not yet	-	1.5 million	Could produce 4 million doses every two months.

V OUTLINE OF DEVELOPMENTS

1. Organization of a smallpox eradication service

(a) On the basis of experience gained in campaigns in countries of Africa, the Americas and Asia, the Organization will compile and distribute a document, to serve as a guide for the establishment of smallpox eradication services in countries in which the disease is still a serious public health problem.

(b) It is now generally agreed that the chief means of attaining smallpox eradication is mass vaccination. If a high level of immunity is maintained in each and every sector of the population, smallpox will die out if infection is introduced into such a population.

(c) Vaccination campaigns must be directed, or at least co-ordinated centrally. The responsibility for smallpox eradication should be given to specific individuals in health headquarters at provincial and country levels.

(d) In some countries, legislation may have to be introduced[1]. The provisions for compulsory vaccination should include primary vaccination in infancy, revaccination on entering and leaving school, on entering certain occupations, general vaccination in declared infected areas and periodical mass revaccination in areas where the disease is endemic.

2. Epidemiological consultants

In order to provide countries with the appropriate assistance in their campaigns against smallpox, the Eastern Mediterranean Regional Office has set up a team of two experts (an epidemiologist and a laboratory expert). This team is at present carrying out a survey of the smallpox situation in the Region, as a preliminary to planning eradication.

As a result of the team's survey of a few countries of the Region, two important points have been disclosed.

(1) Although legislation on smallpox vaccination and revaccination, and registration of births and deaths exist in the countries surveyed, the implementation of the laws is either absent or deficient particularly in the remote rural areas.

(2) Quarantine control at the political land boundaries is insufficient or non-existant and it is recommended that smallpox eradication campaigns should be carried out simultaneously in adjacent countries.

3. Quarantine services

The inefficiency of quarantine control at the political boundaries of the countries, as confirmed by the Smallpox Survey Team makes it imperative that efficient Quarantine services be established at land boundaries between adjacent countries. There is evidence that vaccination made in certain areas has been below acceptable standards. International travellers should be encouraged to use main routes ensuring minimum delay in providing facilities.

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(1) See: EM/RC7/4 and EM/RC7A/R.12

4. Vaccine and vaccination

(a) It is now recognized that the only acceptable criterion for successful vaccination is vesiculation: either primary vaccinia or the accelerated reaction. The precocious non-vesicular reaction known as the reaction of immunity, or immediate reaction, is not reliable evidence of actual immunity.

(b) For mass vaccination as well as routine vaccination in remote rural areas in the countries of this Region, the freeze-dried (lyophilized) vaccine prepared by the Lister Institute technique[1] offers the best results. It can resist 37° C heat for three months and 45°C for at least eight weeks. Even uneducated vaccinators can learn how to use this vaccine. It is issued in containers of 100, 50, 25 and 10 doses. It remains potent only for an hour or two after reconstitution.

(c) The production of freeze-dried vaccine demands high standards of skill and responsibility in the professional and technical staff employed. However, it can be produced in a country's own laboratories. Equipment has been provided by WHO for the production of freeze-dried vaccine to seven of the countries in the Eastern Mediterranean Region (Iran, Iraq, Israel, Pakistan, Sudan, Tunisia, United Arab Republic, Provinces of Egypt and Syria). In at least three of the countries in the Region trials for the preparation of lyophilized vaccine has already started.

(d) In view of the required high skill of the staff working in the preparation of this vaccine, fellowships should be given to medical and technical laboratory workers to study the production of dried vaccine and the working and maintenance of a dried vaccine plant. Six selected medical and technical laboratory staff have been granted fellowships by this Regional Office for training in the preparation of lyophilized smallpox vaccine.

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(1) For the method of preparation see: EM/RC7/5 Annex I

(e) As there are at present very few institutions where fellows can be properly trained and as these institutions are busy with other types of work for which they are normally responsible, WHO will organize training courses in vaccine production. Participants from the regions concerned will then be invited to attend such courses.

(f) Although the thermostability of Lister type vaccine is outstanding dried vaccines prepared by some other processes satisfy the minimal requirement of stability for four weeks at 37°C and can be successfully used in mass vaccination campaigns.

(g) About 1,500,000 doses of vaccine can be produced by one lyophilization unit. In hot climates an air-conditioned laboratory is necessary. Veterinary and other vaccines may be produced simultaneously in the same laboratory.

(h) In order to ensure that the smallpox vaccine which is prepared by the various laboratories is a safe, reliable and potent prophylactic agent, the WHO Study Group on Recommended Requirements for Smallpox Vaccine has laid down certain standards[1]. The quality of vaccine produced at every laboratory must be subject to continuous checking, to ensure that those standards are maintained.

(i) The most dreaded complication of smallpox vaccination is post-vaccinal encephalitis, which occurs most commonly after primary vaccination of adolescents and young adults. The best prophylactic against this complication is to carry out primary vaccination in the very first years of life. However, research into the complications of vaccination and the effects of human immune gamma globulin for the prevention of post-vaccinal encephalitis is proceeding in certain European countries. Furthermore, the hyperimmune gamma globulin which is now being produced from animals will offer a much freer supply and, apart from the prophylaxis of post vaccination complications, it may be useful for aborting overt smallpox in unvaccinated contacts and for treating cases

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(1) WHO/BS/IR/70

of smallpox. It is interesting to note that the Study Group on Recommended Requirements for Smallpox Vaccine has recommended that gamma globulin should be made subject to an international standard.

5. Laboratory diagnosis of smallpox

There is no difficulty in diagnosing smallpox clinically in countries where the disease is endemic. Laboratory confirmation may be needed only in very rare cases. But in countries which have been free from smallpox for some time, and where medical practitioners are unfamiliar with its atypical forms, laboratory diagnosis becomes of major importance for the early detection of imported cases. Apart from laboratory diagnosis, it may also be desirable to provide short fellowships to selected medical and quarantine officers in such countries to become familiar with the clinical aspects of smallpox. The Regional Office for the Eastern Mediterranean has granted a number of fellowships to candidates from this Region.

6. Mass vaccination and other epidemiological campaigns

Experience has shown that smallpox vaccination can be combined with the activities of other campaigns, provided the component operations fit together in their timing. Kala-azar campaigns combine particularly well with vaccination as has been found already in the Sudan. It is recommended, however, that the administration of vaccinators working with other campaigns must remain the responsibility of the smallpox eradication service.

7. Inter-regional conferences

The problem of administration and organization of smallpox eradication campaigns usually varies in different countries, but there appear to be regions where the problems are similar and the experience of some health authorities would undoubtedly be of value to others who may have been less successful. Moreover, coordination of control measures in countries with common frontiers, especially where there are large population movements, is an obvious need. Studies which have been and are being undertaken in the regions will undoubtedly provide information of considerably more than national importance regarding their problems. It would be advantageous to have the results of these studies discussed by those responsible for smallpox control in areas with similar problems.

It is therefore considered necessary that inter-regional conferences be held periodically. As a beginning such a conference is planned for 1960, to include participants from the Eastern Mediterranean, South East-Asian and Western Pacific Regions.

8. Vaccine donation

During the Eleventh World Health Assembly two Governments (USSR and Cuba) have contributed to the world smallpox eradication campaign by making voluntary donations of smallpox vaccine. Some countries of this Region have already requested supplies from this stock. In order that an application for this vaccine may be considered, the plan of operations for the campaign in which the vaccine is to be used must be submitted to the Organization.

ANNEX

CUMULATIVE DATA ON THE INCIDENCE OF SMALLPOX IN 1956, 1957, 1958, AND THE FIRST QUARTER OF 1959

Period	ETHIOPIA	IRAN	IRAQ	PAKISTAN (EAST	PAKISTAN WEST	PAKISTAN KARACHI)	SAUDI ARABIA	SUDAN
1956								
J I	23	29	9	327	33	0	N	124
F II	30	211	0	574	16	0	N	176
M III	148	78	2	876	15	4	N	23
A IV	22	30	0	548	10	5	N	49
M V	44	373	2	408	33	2	N	48
J VI	65	71	5	348	11	0	N	10
- VII	54	168	-	299	1	3	0	1
J VIII	49	81	0	206	5	0	0	1
A IX	28	65	43	152	5	0	5	0
S X	38	110	126	112	2	0	N	1
O XI	25	134	353	261	0	0	N	0
N XII	14	209	639	402	4	3	4	4
D XIII	16	57	994	657	4	20	0	0
	556	1,616	2,173	5,170	139	37	9 +	437
1957								
J I	32	96	864(1)	1,220	4	90	0	0
F II	22	107	640	1,801	3	185	7	0
M III	34	23	154	2,412	2	255	N	6
A IV	39	190	37	3,954	4	154	0	1
M V	25	83	34	4,089	8	106	0	6
J VI	68	35	19	2,439	69	33	17	2
- VII	57	16	-	1,095	28	9	8	54
J VIII	26	2	33	743	11	4	0	98
A IX	31	84	25(1)	593	0	1	3	73
S X	7	83	9(1)	449	0	0	1	7
O XI	21	110	8	709	6	0	0	6
N XII	22	61	67	1,621	18	3	0	5
D XIII	16	62	29	3,599	25	7	10	27
	368	952	1,919(3)	24,724	178	847	46 +	285

N.B. There is indication that there has been an epidemic of smallpox in Yemen during the past three years. However the absence of data does not permit an accurate picture of the incidence of the disease.

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

N No returns received.

\+ Notification by cable.

° Provisional figures received by telegram.

Period	ETHIOPIA	IRAN	Iraq	PAKISTAN (EAST	PAKISTAN WEST	PAKISTAN KARACHI)	SAUDI ARABIA	SUDAN
1958								
J I	15	35	3	5,069	46	9	14	13
F II	22	42	2(1)	5,259	9	38	19	6
M III	50	43	0	6,450	22	32	28	2
A IV	38	10	1(1)	7,669	66	50	12	3
M V	108	18	0	11,542	246	42	23	2
J VI	85	23	0	7,147	236	25	5	1
- VII	95	12	-	1,907	49	12	0	0
J VIII	29	4	0	840	55	7	15	6
A IX	49	1	0	381	41	3	7	1
S X	31	25	0	359	32	0	6	0
O XI	20	89°	0	333	80	4	7	7
N XII	17	0°	0	407	296	2	3	3
D XIII	10	20°	0	534	366	6	17	2
	569	322	6(2)	47,897	1,544	230	156	46
1959								
J I	20	26	0	715	183	19	6	15
F II	10	61	0	1,047	80	28	11	52
M III	36	46	0	1,204	90	48	15	59
A IV	37	0	0	1,331	94	14	30	19
M V	25	2°	17 +	1,147	345	14	1	145
J VI		9°	0 +	403	214	8	14 +	13

N.B. There is indication that there has been an epidemic of smallpox in Yemen during the past three years. However the absence of data does not permit an accurate picture of the incidence of the disease.

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الهيئة الصحية العالمية
المكتب الاقليمي لشرق البحر الأبيض

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE LA MÉDITERRANÉE ORIENTALE

REGIONAL COMMITTEE FOR THE EASTERN MEDITERRANEAN
Ninth Session
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SMALLPOX ERADICATION

I In pursuance of the resolutions on smallpox eradication adopted by the Eleventh World Health Assembly[1] and the Executive Board at its Twenty-Third Session,[2] the Director-General submitted to the Twelfth World Health Assembly a report[3] on the financial, administrative and technical implications of a programme having as its objective the eradication of smallpox.

II In the report both the national and international aspects of the problem have been considered in the light of the information collected from fifty countries as a result of a questionnaire sent to all Member States, and the financial implications have been stressed.

III Taking into consideration the replies received, the estimates made in the report of costs of campaigns in countries where the disease is endemic have been based on the assumption that the average cost per person of mass vaccination campaigns throughout the world is 0.10. It is clear from the report that more funds than those included in present national budgets will have to be made available if effective campaigns are to be waged in countries where the disease is still a great problem. International assistance will also have to be greatly increased and future WHO budgets will have to include larger allotments for smallpox eradication. There is no doubt that such a

(1) WHA11.54
(2) EB23/R.71
(3) A12/P&B/9

determined effort is worth while and opportune particularly because if eradication is successfully accomplished, heavy annual expenditure by individual countries will become unnecessary. With adequate support and cooperation from national health authorities and with international assistance, considerable progress towards eradication may be achieved in a relatively short time.

IV The Twelfth World Health Assembly discussed the development of the smallpox eradication programme in the light of the information included in the report of the Director-General and adopted the following resolution[1]:

"The Twelfth World Health Assembly,

Having considered the report of the Director-General on smallpox eradication,[2]

Noting:

(1) that although great progress has been made in the eradication of the disease in some areas of the world, important endemic foci of smallpox still remain in other areas, especially in South-East Asia and Africa, from which the disease can be exported to countries already free of it;

(2) that eradication of smallpox from an endemic area can be accomplished by successfully vaccinating or revaccinating 80% of the population within a period of four to five years, as has been demonstrated in several countries;

(3) that sufficient scientific and technical information is available on the production of a suitable smallpox vaccine; and

(4) that although an eradication programme may require, for four or five years, an increase in the national efforts and financial obligations for the intensified campaign against smallpox, the heavy annual burden of continuing expenditure incurred for this purpose may be considerably lightened by increasing the interval between vaccinations once eradication may be considered to have been accomplished,

1. EMPHASIZES the urgency of achieving world-wide eradication;

2. RECOMMENDS to the health administrations of those countries where the disease is still present that they organize and conduct, as soon as possible, eradication programmes, making provision for the availability of a potent stable vaccine;

3. REQUESTS the Director-General:

(1) to urge health administrations of those countries where the disease is still present to develop eradication programmes and to offer them any necessary technical guidance and advice;

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(1) WHA12.54

(2) Document A12/P&B/9

(2) to provide for the necessary activities to further smallpox eradication programmes and for the assistance requested by national health administrations for this purpose, in his programme and budget for future years; and

(3) to collect from the countries concerned information on the organization and progress of their respective eradication programmes and to report further to the Thirteenth World Health Assembly."

Twelfth Plenary Meeting, 29 May 1959
A12/VR/12

V The Regional Director has the honour to draw the attention of the Regional Committee particularly to the operative paragraphs of the above-mentioned resolution of the Twelfth World Health Assembly and again to emphasize that the full cooperation of governments of countries of the Region is essential to the universal eradication of smallpox.