

SEMINAR ON IMMUNIZATION PROGRAMMES

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COUNTRY PROGRAMME :

PAKISTAN (PUNJAB)

COMMUNICABLE DISEASES PREVENTABLE BY IMMUNIZATION
AND THE PRESENT STATUS OF IMMUNIZATION IN PAKISTAN (PUNJAB PROVINCE)

by

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Pakistan covers an area of approximately 310 403 square miles. Its topography ranges from northern high mountains containing also the second highest peak in the world to desert plains just above sea level in Sind. The temperature has similar variation in different parts of the country. Except for the sub-mountains regions, it is completely dependant on river flow for all its water supplies. The sub-soil water is fit for human use, and cultivation purposes, only in certain areas; in most of the country it is brackish and unfit even for irrigation.

The population estimates for 1975 place its population figure at 70.3 million and 60 per cent of it lives in the Punjab. The density of population varies from eighteen per square mile in Baluchistan to 529 per square mile in the Punjab. It varies widely within the Punjab with over 1 200 persons per square mile in the densely populated district of Lyallpur with a population of 4.2 million persons to 96 per square mile in the Bahawalpur district.

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Of this total population 51.9 per cent are males and 48.1 per cent females. Children under five years of age comprise 17.9 per cent of the population, in the age group five to nine years 14.3 per cent and in the age group ten to fourteen 12.7 per cent of the total population. As such, 45 per cent of the population is under fifteen years of age. 29 per cent of the population lives in urban areas and 71 per cent in the rural areas. These figures were 22.5 per cent and 77.5 per cent in 1961.

Women of child-bearing age (15-49 years) comprise 22.1 per cent of the population. The birth rate is 45.5 per thousand, the death rate 15.5 per thousand and the annual population growth rate 30 per thousand. The infant mortality is estimated at 115 per thousand with life expectancy at birth being 52.9 for male and 51.8 for female. The male population, therefore, at birth has a longer life expectancy.

The statistics on the incidence of various communicable diseases preventable by immunization are extremely unreliable except possibly for smallpox. The attached Table A gives the year-wise number of cases and deaths reported for whooping cough, poliomyelitis, diphtheria, enteric fever, tuberculosis, measles and smallpox in the years 1971 - 1974, both inclusive. These figures relate to both the urban and rural areas for smallpox; they are for the urban areas only for the remaining diseases. Further, the number of cases other than smallpox are from hospital figures. With a number of different systems of medicine prevailing in the country and a very poor availability of basic health services, there is gross under-reporting. Tables B and C give the figures of vaccination against smallpox performed in Pakistan and of vaccination and inoculations performed in the Punjab.

There are only two National Immunization Programmes, namely, vaccination against smallpox and BCG inoculation against tuberculosis. Vaccines for both of these are imported from outside the country through UNICEF resources for BCG and through WHO for smallpox. Whereas for the Tuberculosis Control Programme there is a Director, Tuberculosis Control at the Centre and Provincial Tuberculosis Control Officers in each of the Provinces, there is no central officer for the Smallpox Eradication Campaign. However, each Province has its own Provincial Smallpox Eradication Officer. In the districts the

control and eradication of smallpox and immunization with BCG is a responsibility either of the District Health Officer or District Tuberculosis Control Officers where these have been appointed. The integration of the vertical programme is under implementation and when completed will provide, at least in the Punjab, a Deputy Director (Communicable Diseases Control) at the provincial level with an Assistant Director (Communicable Diseases Control) for diseases other than malaria. In each district there will be an additional District Health Officer (Communicable Diseases Control). Actual immunizations will be carried out by the Communicable Diseases Control workers, lady health visitors working in MCH centres, MCH sections of primary health centres and Tehsil Headquarters Hospitals and during the low malaria period by the workers of the Malaria Eradication Programme. Initially, the multi-purpose immunization programme will be implemented at fifteen selected places as a pilot project. These fifteen places include MCH centres, primary health centres, and MCH sections of Tehsil Headquarters Hospitals. Subsequently it is intended to extend the programme to all MCH centres, basic health units, rural health centres with their sub-centres and Tehsil Headquarters Hospitals. In the third phase the programme will be extended throughout the Province of Punjab. The programme will be administered in each province by the Provincial Health Department.

Presently TAB, cholera and anti-rabies vaccines are produced in the country, at the National Health Laboratories, Islamabad. The Laboratory is equipped to produce the total requirements of these vaccines for the country.

The Laboratory also produces, on a trial basis, some smallpox vaccine which has not yet been approved by WHO. Similarly there is a programme to produce BCG vaccine and vaccines toxoids against other preventable diseases. Initially, therefore, these will be obtained through assistance either by UNICEF or WHO. The storage and transportation of these vaccines is and will remain the responsibility of the Provincial Government, which also will be responsible for the operation, supervision, recording and evaluation of the programme. The last can best be a responsibility of the Central Government but the Central Health Ministry is not yet equipped and staffed to carry this responsibility. The Punjab has about 1 860 workers involved in immunization programmes, comprising of vaccinators,

BCG technicians, lady health visitors, rural health inspectors, inspectors of vaccination and sanitation and their supervisory personnel. In the whole of Pakistan the number estimated of these workers is approximately 3 030. However, when the integration programme is completed the number of Communicable Diseases Control workers, including those of the Malaria Eradication Programme, is likely to rise to 5 000 persons in the Punjab alone and this will give approximately 8 000 population per worker.

The constraints of the National Programme are:

- 1) Non-production of most of the vaccines within the country.
- 2) Duality of control over the workers of the immunization programme as most of the vaccinators belong to the local bodies and are only under indirect control of the health services.
- 3) The resistance of the people to any immunization programme except during emergency when disease outbreaks force the people to apply for and submit to immunization.
- 4) Inadequate coverage by health education, to motivate the people to co-operate with immunization personnel.

TABLE A
P A K I S T A N

Name of Disease	1971		1972		1973		1974	
	C	D	C	D	C	D	C	D
1. Whooping Cough	1490	2	2521	5	4684	-	7240	17
2. Poliomyelitis	954	343	911	35	911	38	424	54
3. Diphtheria	1096	95	1253	78	1241	49	1048	122
4. Enteric Fever	5422	119	8714	69	9714	67	14061	53
5. Tuberculosis	54757	473	59694	450	33256	514	63581	571
6. Measles	1827	207	881	44	5003	320	1965	57
7. Smallpox	5802	1123	7053	966	9258	1122	7868	420

Note: Figures relate to urban areas only except for smallpox, which figures relate to both urban and rural areas.

TABLE B

SMALLPOX VACCINATION IN PAKISTAN

Vaccination				Smallpox		
Year	Prv:	Re:	Total	Cases	Deaths	Year
1971	17,30,804	1,54,79,885	1,72,10,689	3,960	748	1970
1972	18,03,206	1,46,97,022	1,65,00,228	5,809	1,123	1971
1973	19,87,960	1,54,48,043	1,74,36,003	7,053	996	1972
1974	20,75,181	1,79,59,988	2,00,35,169	9,258	1,122	1973
1975	Figures not consolidated			7,868	420	1974

TABLE C

STATEMENT SHOWING SMALLPOX VACCINATIONS AND BCG, CHOLERA AND TAB INOCULATIONS
PERFORMED IN THE PUNJAB DURING THE YEARS
1970 to 1974

	1971	1972	1973	1974	Remarks
1. Smallpox vaccinations					
Primary	11,92,711	11,96,911	13,03,626	14,61,898	Excluding the information in respect of Bahawalour Division for the period January 1970 to June 1972
Re-vaccination	<u>1,98,96,977</u>	<u>79,89,515</u>	<u>1,08,47,527</u>	<u>1,33,53,710</u>	
Total	<u>1,10,89,688</u>	<u>91,86,426</u>	<u>1,21,51,153</u>	<u>1,48,15,608</u>	
2. BCG vaccinations	9,37,993	9,75,659	6,98,434		
3. Cholera inoculations	39,26,791	14,68,404	74,04,151	24,52,960	
4. TAB inoculations	2,08,029	3,43,421	22,32,718	7,37,370	