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FIRST ANNIVERSARY OF THE
ONSET OF RASH OF THE LAST
KNOWN CASE OF VARIOLA MAJOR



BANGLADESH SMALLPOX ERADICATION PROGRAMME
MOHAKHALI, DACCA

INTRODUCTION

With this newsletter we celebrate the passing of the first anniversary of the last known case of variola major in Bangladesh, Asia, and the world. When Rahima Banu, then aged three, of Kuralia village, Bhola Island, Barisal, was found to have been attacked by smallpox on 16 October 1975, it was certainly hoped but by no means sure, that she would in time prove to have been the last known case.

Today the thousands of smallpox workers who have been engaged in the most intensive surveillance work ever carried out in any country can look back with some satisfaction at the last year's work. No smallpox has been found in Bangladesh despite the continuous efforts which have been made throughout the country to detect any remaining case.

The major part of this newsletter will be devoted to a review of the work which has been carried out over the last year, and the current and planned programme activities. The next year, we hope, will culminate with an official declaration by an International Commission that Bangladesh is free from smallpox.

The goal is indeed getting closer, but we must always remember that smallpox, like any other enemy towards the end of its defeat, will seek shelter in areas where it can remain hidden. The acceptability of the evidence and documentation put before the International Commission in one year's time will depend on the thoroughness with which possible hiding places have been checked and rechecked. Without minimizing the importance of the achievements to date we must take the view that the last year of work, like the last few yards of a race, will be the most important. With this approach, and the maintenance of the intensive and thorough surveillance work which has already given the Bangladesh Smallpox Eradication Programme a unique reputation, we can hope that in a year's time Rahima Banu will not be known simply as "the last known case" but "the last case". With the memory of the ravages of this dreadful disease still fresh in our minds, that, indeed, will be a memorable achievement.

ACTIVITIES SINCE THE LAST KNOWN CASE

1. Four national house-to-house searches in rural Bangladesh have been carried out, in November 1975 and January, March and May/June 1976. During these searches, an average of 92% of all rural homes were visited, despite very difficult conditions at times (especially June). Clinical, epidemiological and, where necessary, laboratory investigations ruled out the possibility of smallpox. A high level of awareness about smallpox, where to report it and the reward, was found among the people of the country.

2. Special searches were carried out in the major municipalities of Dacca, Chittagong, Narayanganj, and Khulna during the summer of 1976. Search assessment showed that the coverage of urban homes as well as the awareness of the population was generally as good as in the rural areas.

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3. Special searches of the Sundarbans Forest (June) and the Chittagong Hill Tracts (February/March and October) have also been completed. In the Sundarbans, the search in villages adjacent to the jungle and the questioning of over 14 000 forest workers revealed no hidden foci of infection. However one interesting and, at first, unidentifiable pox case was discovered, later diagnosed by a Moscow reference laboratory as buffalopox; a thorough investigation of the area was undertaken to detect any further cases of this disease and to try to learn more about it (see below). The two searches in the Hill Tracts have also revealed no further previously undetected smallpox.

4. A weekly reporting system of all types of rash disease and death from rash disease, from every thana in the country to national headquarters, has been maintained with 82% of all thanas reporting regularly. Regularity and quality of reporting by Thana Smallpox Officers is still improving and has been encouraged by the weekly lottery system; two TSOs per week selected at random receive an award provided that they have been reporting regularly.

5. In addition to the search activities and routine reporting from thanas mentioned above, routine surveillance work has been carried out throughout the country by mobile surveillance teams, one per subdivision.

6. In a programme designed to provide improved support and training for Thana Smallpox Officers, epidemiologists and surveillance teams have visited 98% of all thanas in the country during the 1976 summer months on a planned basis.

7. Surveillance teams have also carried out a special programme of revisiting the last 100 reported outbreaks from July 1975 onwards and involving a thorough investigation over a five-mile radius around each outbreak location, attempting to detect any possible cases of failure of the containment policy used while smallpox cases were in existence. This programme of revisits has shown that during the epidemic period containment was excellent. In not one single old outbreak was any unreported case detected within a five-mile radius of a previously infected house.

8. A total of 440 laboratory specimens have been collected from suspect smallpox cases during the year for analysis in laboratories in Dacca and WHO international reference laboratories; all results have been negative for smallpox.

9. Three rounds of a pockmark and vaccination scar survey have been completed by surveillance teams, covering 100 houses in each of 400 villages in each round, in an attempt to determine the incidence of smallpox in previous years and the level of protection of the population by vaccination. The fourth round is now under way, and survey results should be available by January 1977.

10. A major part of the epidemiological supervisory work over the last year has been carried out by government health officers deputed and trained as "national epidemiologists" on three-month assignments to the smallpox programme. To date 141 national epidemiologists have been trained and have worked with the programme in an area of two or three subdivisions.

ADDITIONAL ACTIVITIES

Following each national house-to-house search, a selected number of villages in each thana are assessed by district and subdivisional officers, WHO epidemiologists and some surveillance team members. Each assessor visits 20 houses in each selected village, asking specific questions involving the identification of the Smallpox Recognition Card, the existence of any cases of rash disease, the knowledge of the reward and where to report any cases, and when the house had been last visited by a smallpox search worker. The results give an indication of the coverage and quality of the search itself.

With about 400 assessors covering approximately 1500 randomly selected villages (30 000 houses) over the country in this way after each search, we have been able to take this opportunity to gather useful information relating to other health matters and programmes at no extra cost.

As a result, a number of surveys have been carried out during post-search assessment since September 1975:

- (a) vitamin A distribution;
- (b) village tubewell usage;
- (c) malaria case detection;
- (d) family planning information;
- (e) medical care delivery.

In addition, at the request of the Government of Bangladesh a survey of natality and mortality rates was carried out by surveillance team members in 12 000 homes in 120 villages in July 1976. This was achieved by combining the survey with the pilot round of the Pockmark/Vaccination Scar Survey.

WHAT'S HAPPENING NOW

1. The fourth round of the pockmark and vaccination scar survey has started on schedule on 1 November. With the completion of this round, over 150 000 homes will have been surveyed to collect information and data on:

- (i) vaccination coverage and the sex/age distribution of the immunized and non-immunized population. (It is already clear from the earlier survey rounds that the immunity of young children 0-4 years as indicated by vaccination scars is very low compared with the rest of the population. The December Primary Vaccination Round is designed to raise the protection level of this particular age group.)
- (ii) the incidence of smallpox for each year from 1972 to 1975 inclusive, as indicated by the presence of facial pockmark scars;
- (iii) any possible occurrence of smallpox in Bangladesh after the date of attack of the last case known (16 October 1975) which may have escaped detection earlier.

2. An investigation of the "buffalopox" outbreak in Khulna District is being carried out by a specially organized team of epidemiologists, livestock veterinarians and technicians. All houses within a four-mile radius of the house where one human case of buffalopox was found are being visited and blood specimens collected from people and domestic and wild animals for testing in Dacca and at reference laboratories abroad. A hospital ship is being used as an organizing base and communications centre. This operation is scheduled for completion in mid-November and should yield valuable information on this pox disease which is known to be related to smallpox, but about which little more is known at present.

3. Compilation and analysis of the information and data resulting from the recently completed special search of the Chittagong Hill Tracts is under way, and a report will be available shortly.

4. The planning of the remaining major activities for 1976 is going on. These are:

- (i) A national smallpox primary vaccination round to be carried out by Family Welfare Workers during the first two weeks of December.
- (ii) The next house-to-house search scheduled to start on 22 December.

The next newsletter will contain full details on the presearch and search programme.

REPORTING SYSTEM

There has been a considerable improvement in the reporting system from Area Smallpox Officers (ASOs) as well as Thana Smallpox Officers (TSOs). However, certain areas are still not reporting regularly. The list of these has been circulated separately. All missing reports should be sent to Smallpox Zero immediately.

RUMOUR REGISTER LOTTERY

Week No.	District	Thana	Thana No.	Report received Yes/No
32	Noakhali Comilla	Begumganj	366	Yes
		Homna	348	Yes
33	Dacca Rangpur	Kotwali	237	Yes
		Kurigram	43	No
34	Comilla Rangpur	Kasba	345	Yes
		Nilphamari	26	Yes
35	Tangail Jessore	Gopalpur	266	Yes
		Abhoynagar	139	Yes
36	Patuakhali Sylhet	Patuakhali	184	Yes
		Fenchuganj	327	Yes
37	Pabna Rangpur	Shahzadpur	104	Yes
		Jaldhaka	25	Yes
38	Barisal Rangpur	Mehendiganj	198	No
		Gangachara	32	Yes
39	Pabna Mymensingh	Chatmohar	106	Yes
		Hossainpur	288	Yes

WHO epidemiologists will check and pay a reward of 100 Takas if the register has been maintained properly and entries are correct. Epidemiologists will verify one of the entries by checking in the field.

KEEP SEARCHING - IT MAY BE IN THE NEXT VILLAGE