

The polio campaign in Rajasthan, by Sunny Sebastian

The desert state of Rajasthan is one of eight states in the country identified as high risk for poliomyelitis. This year, the Intensified Pulse Polio Immunisation (IPPI) campaign is concentrating on ensuring that every child under the age of five receives six doses of the oral polio vaccine, thus blocking the growth of the wild virus. The last National Immunisation Day (NID) in January 2000 is to be followed by the two state-wide “sub-NIDs” for each of the high-risk states.

Health authorities in the state are quite confident of almost-total coverage during this round of the campaign. The pulse polio campaign, which has been on since 1995, has become a “people’s programme” over the years, according to government officials. People have responded enthusiastically to the many mobilising efforts, through panchayati raj leaders, students, and other groups. There is no major opposition to the immunisation drive, though some people have not cooperated in the campaign, largely because of ignorance, indifference and misplaced fear for their children’s health.

However, interviews with medical professionals and non-government organisations (NGOs) in the immunisation drive give the impression that both health workers and the general public have become somewhat apathetic about the campaign this year. This is interesting considering that the 1999-2000 campaign is believed to have done a better job of reaching the target population, and there have been fewer problems with vaccine quality.

A high risk state

All 32 districts in the state were labeled ‘high risk’ areas at the end of 1998, after 63 cases of polio proved to be caused by the wild virus were reported in as many as 25 districts. In 1999, only nine districts reported wild viruses in a total of 10 cases. The total number of polio cases came down from 255 in 1998 to 119 as of the first week of December 1999.

Health and the health services

Though Rajasthan is one of the BIMARU states, it is not among the three worst offenders in the cases of mortality indicators like infant mortality rate, under-five mortality rate and maternal mortality ratio. Only in the neonatal mortality rate does it rank among the top three, with Madhya Pradesh and Orissa (*Health for Millions*, July-August 1999). In the indices of life expectancy and indicators of human development and gender health and reproductive health, too, Rajasthan has moved out of the worst three states' category.

The state’s health infrastructure is also fairly good. It has 1,662 primary health centres (PHCs) and 9,851 sub centres spread over six divisions or zones. On an average there is one PHC for a population of 30,000 and one sub-centre for a population of 5,000 (In the desert region there is one sub-centre for 3,000 people). There are 32 chief medical and health officers -- one for each district – and an equal number of reproductive and child health officers.

Massive infrastructure for a desert state

In the IPPI campaign, health and general administrative services worked in tandem to reach the oral polio to every child under five in this vast desert state. The state made use of mobile units in its Tribal Sub-Plan area in South Rajasthan. Material assistance also came from the Border Security Force in border districts like Jaisalmer.

Rajasthan has the highest ratio, in the country, of booths to the population: each booth is meant to cater to 250- 300 persons, compared to the national average of one booth for every 500 persons. This is necessary considering the vastness of the state and the sparse population in the desert areas. Only 6,000 of the 36,000 booths in the October and November rounds were in urban areas. Even these numbers were found to be

inadequate, and another 4,000 booths were added in the December 1999 round. Each booth is manned by a team of four people: medical or paramedical staff, education department or senior school students.

Was every child reached?

The 1999 campaign aimed to immunise 74 lakh children (based on the assumption that children under five made up 14 per cent of the state's total estimated population of 542 lakh). However, as many as 96.5 lakh and 98.5 lakh doses of oral polio vaccine were administered in the October 24 and November 21 rounds, respectively.

According to experts, the 74 lakh figure could be an underestimate of the actual number of children in the target group. Besides, some older children may have been administered the vaccine, and some children may have been given more than one dose. Last year, when Rajasthan surpassed its targets by 115-118 per cent, independent studies later estimated that only 95 per cent of the population had been reached.

Colour fast

In response to health workers' complaints that the gentian violet with which they marked immunised children faded so fast they were sometimes unsure if a particular child had in fact been immunised, the concentration of gentian violet solution was increased so that it would stay visible for a longer time. There has also been a suggestion to mark the child's big toenail where it is least likely to fade from repeated washing.

A study of the campaign in Rajasthan found that only about one-third of the children studied were immunised in all three rounds of the PPI. While up to 96 per cent of the target population was covered in any given round, coverage was lower in urban areas (90.1 per cent) than in rural areas (94.6 per cent). (*Evaluation of Pulse Polio Immunisation and Routine Immunisation in Rajasthan 1997-98* by S D Gupta and Nand Kishore Sharma, Indian Institute of Health Management Research, May 1998).

Urban coverage

A UNICEF study which looked at the door-to-door coverage found that districts with largely rural populations were better covered than urban areas – the larger the urban area, the more the uncovered spots. Among the problem areas noted were slum clusters in Jodhpur town in western Rajasthan and other towns. In the house-to-house campaign, health workers were not always familiar with the localities in which they were deployed.

Though special attention was given this time to people in the slums, and to travelling populations at bus stations, railway stations and even hotels, health officials have expressed reservations about the coverage of slum children, street children and children of the elite. "There have been gaps in coverage in every major urban centre in Rajasthan," pointed out an official looking after surveillance. Mobile populations need special attention, whether they are street children, traditionally migrant communities or people from drought-affected areas who move in search of jobs.

Fair game

Rajasthan holds a number of fairs, particularly during the winter. The campaign organisers used the opportunity to immunise children at fairs in Ajmer (Pushkar), Churu (Salasar Balaji temple) and Sikar (Neem ka Thana) which happened to take place during the October 24 NID.

A senior official in the state medical directorate stated that the five per cent of children missed in 1998 were covered this year. Others like Dr. Suresh Joshi of UNICEF believe that about 98 per cent of all children under five have actually been reached. "A small percentage of children may have been left out – such as occupants of houses found closed during the campaign, and people in transit."

Booth versus house-to-house

Starting in October 1999, the booth-based National Immunisation Day has been followed by two days of house-to-house visits by health workers to trace any children who did not come to the booth for immunisation.

Some people feel that parents have become complacent because they know that the booth-based immunisation programme will be followed by a visit from health workers. About one-third of the children covered in the October round had to be sought out through house-to-house visits during which the cold chain is more difficult to maintain.

They came to the booths driving tractors

Mrs. Hemlata Sharma, an anganwadi worker in Bhamboria village along the Ajmer-Jaipur highway, is also active in the Mahila Mandal of the local Nehru Yuvak Kendra. One day before the NID, the 45 women volunteers in the Mahila Mandal would go around the village asking people to send their children for vaccination.

People came in tractor trolleys from far-flung hamlets to get their children vaccinated. During the house-to-house campaign, workers had access to any of the seven refrigerators in the village to keep the vaccine effective.

Experts also fear that the house-to-house system could miss some children; volunteers finding the house empty don't always go back later to trace the occupants. This is especially true in western Rajasthan, with large sections of the population in a semi-permanent state of migration in search of a job.

However, the fears of a drastic decline in booth-based coverage in the November NID turned out to be misplaced. "There was no dramatic reduction in the numbers even when 10-13 per cent of the children were covered in house-to-house operations," observes Dr. Suresh Joshi of UNICEF.

In fact, though booth-based coverage did drop in the November round in Jamwa Ramgarh panchayat, Jaipur district, overall coverage of 46,640 exceeded the October round's 44,347 -- which itself was much higher than the target of 33,094. In other words, the November round reached a massive 140 per cent of the target population. Based on previous evaluations, all children in the panchayat should have been reached.

Community mobilisation: reaching the people

Health and anganwadi workers, panchayati raj functionaries, teachers, administrators, NGOs and other groups were approached to generate public participation in the programme. On the mornings of the NIDs, school children led processions through their localities to remind people to bring their children to the booths. Older students were recruited to bring children to the booths for immunisation. NGOs supplied posters, banners and other visual publicity material. At least one religious organisation held a ceremony focussing attention on the need to eradicate polio.

A public movement

Chittorgarh in Rajasthan was the first district to undertake the pulse polio programme in the country, in 1994-95. "It was a big public movement carried out without any financial support from the government or other agencies," said Mr Shailendra Agarwal, the district collector at the time. "It was the best polio vaccine campaign I have ever come across."

The IIMR study found that coverage was highest among the tribals – 97.2 per cent compared to 93.8 per cent overall – probably because of the policy of approaching the tribe's headman to convince people to bring their children for immunisation.

A community leader

Dr Jeetendra Banjara, medical officer at Umarwaas panchayat samiti in Rajsamand district, is probably the only doctor from his tribe in Rajasthan. The nomadic Banjara tribe people have special respect for this dynamic personality because he is one of them. So when he supported the campaign, they accepted it without hesitation.

Of course, even as there are stories of various efforts in this massive human endeavour, there are complaints about lack of coordination between the different groups. Social workers complained that the government was taking all the credit. Surveillance personnel felt sidelined as they were never invited to the media conferences held on the eve of the NIDs. Some NGOs were of the view that coordination among various state government departments could have been much better.

Confusion in the community

There are two major reasons why some children are either not immunised or only partly immunised, according to Mr. Nand Kishore Sharma, co-author of the IIHMR study evaluating the pulse polio campaign. Either parents are not aware of the need for additional drops of OPV, or they have no faith in the vaccine. An inadequate public information campaign is partly responsible for some confusion about the polio campaign.

Social workers from Vihan, working in Banswara district reported that Adivasis and Banjaras did not take the vaccine very seriously. "They argue that just two drops cannot do much good," said one worker from Garhi in Banswara district.

"But my child is not ill..."

Mrs Hemlata Sharma found that this year she had to spend much more time explaining to parents why their children should take the vaccine. "They were suspicious," she said. "They would ask why the children needed medicine if they are not ill." In the end, however, she was happy to find that more children were brought to the booths in the December round. "We needed to go in search for only seven children in the village."

The increase in national immunisation days also created some confusion. In past efforts, NIDs were held on two days; in Rajasthan, this has gone to a total of six days for the current year 1999-2000. People asked if the additional doses are because the vaccine is not effective enough. People did not always understand that the campaign is not about protecting individual children but ridding the country of the wild virus.

Questions, questions

"Why are there so many immunisation days? How can the policy keep changing? This is not a scientific approach," said a middle-class mother whose doctor advised her to skip the third and fourth doses for her child. "How many doses are needed for complete immunity?" asked a medical representative. "If my children are already protected by routine immunisation, why should I take them for the additional doses?" asked an upper middle class parent.

Ms Mini Stephen, a staff nurse, used the voters' list to search for houses during the door-to-door campaign. She commented 'on 'VIP parents' who kept her waiting at the door while they rang up their doctors for an opinion before allowing their children to be given the OPV.

Mr. R. S. Sharma, project manager of the Family Planning Association of India in Jaipur, which has taken on the job of OPV coverage for a population of 60,000 slum dwellers, said many ordinary people distrusted the vaccine. Though there were no religious or caste prejudices against OPV, the two-year-old story of two children in the minority-dominated Ghat Gate area of Jaipur, who died reportedly after receiving the

vaccine, was still fresh in the local people's memories. Many people were suspicious of the vaccine because it is part of a government programme, according to Mr Sharma.

Unjustified fears

“One of my friends visited a family in a slum in Durgapur (Jaipur). They already had one child with AFP but wouldn't let her give the other children the vaccine,” said a health worker. “We referred the case to the supervisor.”

Rumours were rampant in some tribal areas that the polio vaccine was actually a population control measure. According to the field publicity officer at southern Rajasthan's tribal-dominated Dungarpur district, many tribals in Banswara and Dungarpur resisted the vaccine fearing their children would become sterile if they took the OPV. State authorities remained unaware of the rumour, as a result of which some 10 per cent of children under five in the region were reportedly left unimmunised.

Things reached such a stage that authorities had to make a special request to the paediatrics association in the state to support the cause and advise their clients to take their children for the additional immunisation doses.

The IIMR study indicates that as the campaign reaches its final rounds, it still needs to address the issues of credibility and conviction through appropriate communication efforts. Organisers have not made serious attempts to involve the media in the campaign. A senior radio journalist who was approached by friends for clarification on the number of doses approached health authorities for an explanation, but found that they were unwilling to discuss the subject with her.

A scientific debate in the press

The picture was further confused when a debate in the medical profession on the relative efficacy and safety of the injectable and oral polio vaccines was reported and discussed in the lay press.

The debate took place between senior paediatricians in the *Journal of the Indian Association of Paediatricians*, before it was reported in the Hindi newspaper *Rajasthan Patrika*. It appeared in a column which called the IPPI an “experiment” involving stupendous manpower and resource inputs. The report also quoted the *JIAP* article which suggested that the oral vaccine could be harmful in repeated doses, as well as to immuno-compromised children.

A second report in the same newspaper described the programme as unscientific, stated that hundreds of Indian children had fallen sick after taking the vaccine, that the OPV was banned in Europe and the US because of these risks, and expressed shock that the government insisted on administering the vaccine which could cause the illness, especially to immuno-compromised children. This report also quoted the *JIAP* article which said that vaccine-associated polio paralysis for the country was as high as 73 and 231 in 1998 and 1999 respectively.

Surprisingly there was no prompt official response to the newspaper articles. A senior government official handling information, education and communication said the column had been referred to the government of India and a rejoinder would be duly sent to the newspaper's editor. The absence of an official defense of the programme created doubts in some people's minds and may be construed as an admission of its drawbacks.

In addition to these articles, there have been press reports of children being affected with polio despite taking the OPV, in the predominantly tribal area of Jadhoh, Udaipur district. According to the state government's health department, the children could have been affected with polio before the immunisation. The press has also occasionally carried reports that children have died shortly after receiving the OPV.

All such coverage requires prompt clarification from the government. Unfortunately, this has not been the case.

Coordination with the media

While health workers are the single most important source of information on the pulse polio campaign according to the IIMR study, 39 per cent of city and town dwellers first heard about it through the television. A more recent study found that most people heard about the campaign through school children and health workers; the message reached a mere eight per cent of the public through the audiovisual or print media.

However, many people feel that those handling IEC on the polio campaign have made no effort to discuss the entire conceptual basis for the IPPI with senior newsmen who mould public opinion. Many officials were reluctant to give information to the press. Medical authorities were more forthcoming with media personnel who tried to gather information and examine the issue in detail.

Surveillance

Since October 1997, all reported cases of acute flaccid paralysis (AFP) are to be followed by laboratory analyses of stool specimens for the polio virus. (All reported cases of acute flaccid paralysis which do not improve within 60 days are deemed to be polio even laboratory tests do not detect the presence of the wild virus.)

A non-polio AFP reporting rate of 1/100,000 is an indicator that all cases of AFP are indeed being reported, ensuring that all cases of polio are picked up. State authorities are satisfied with the reporting for AFP (the non-AFP rate is 1.47 per 100,000 (**Sunny: for which year? It must be for 1999 as of December some time, but could you specify?**), an improvement from the previous year's 0.93 per 1 lakh). However, reporting quality varies from more than 2/100,000 in districts like Jhalawar, Churu, Jalore and Barmer, to less than 0.5/100,000 in other districts, suggesting that the state's surveillance machinery can do with improvement.

The surveillance programme is also supposed to ensure that two stool samples from all reported cases of AFP, are sent for testing within the 14 days of the onset of disease. Since Rajasthan does not have a laboratory to test the presence of wild polioviruses, stool samples of AFP cases in the state are sent to Ahmedabad in Gujarat for testing.

State health authorities insist that samples are dispatched to the laboratory within the stipulated time, while maintaining the necessary 'reverse cold chain' so that any viruses in the sample survive for testing. The National Polio Surveillance Project disagrees. The state figures at the bottom of a chart in the June-September 1999 issue of *AFP Alert*, reporting only 60 per cent of specimens within the stipulated period.

"We usually manage to collect samples but fail to reach them to Ahmedabad for testing in time," says a senior health official. Efforts were made to set up a laboratory in the state, but none of the medical colleges approached could assure quality services.

An effective cold chain

According to Dr. Joshi, this year's campaign was notable for maintaining the cold chain, though organisers did have problems keeping the cold chain intact during the October round. This was confirmed in a process evaluation of 300 selected booths in the high-risk areas of the state.

In the additional sub-NIDs in February and March, the state will have to take extra care to maintain the cold chain as winter comes to an end in the state. The government of India has already been approached for

generator sets in case of power failures, to use during the sub-NIDs. Senior medical officers may also be assigned to monitor clusters of booths, to ensure that the cold chain is maintained.

The campaign's effect on routine immunisation

Immunisation figures have never been very high in Rajasthan. An evaluation of routine immunisation in 1997-98 by the union ministry of health and family welfare found that 60 per cent of the children in the state had received the BCG dose. Only 40 per cent of the state's children 0-11 months had received DPT 3, and just eight per cent had received the measles vaccine. Forty-one per cent of the children had received all three doses of the routine oral polio vaccine. Out of the four cities mentioned in the report, Udaipur had the highest immunisation rate at 48 per cent. Only 21 per cent of children in Jodhpur were fully immunised.

Health authorities and medical professionals do feel that the IPPI will have affected routine immunisation in various parts of the state. "Whenever there is a major drive of this kind attention is bound to be diverted," observes Dr. S. C. Gupta. The IIHMR study held that overall routine immunisation could have declined by as much as 18-20 per cent during 1997-98.

Local newspaper reports suggest that certain pockets of the state face new problems because of the drop in routine immunisation. An epidemic of diphtheria in Jaisalmer district Pokhran tehsil (Chayna village and Ramdeora tehsil, Sujasar village) was reported in *Rajasthan Patrika* (December 13, 1999). Six children between the ages of 2 and 10 died in the epidemic. Local authorities confirmed that children in many of the villages surrounding Pokhran and Ramdeora were unvaccinated.

The future of the campaign

Some people have also indicated that ennui has set in, particularly among the government staff in the campaign. "People took the programme more seriously in the past," says Ram Babu of the Rajasthan Voluntary Health Association. This year, voluntary organisations were found to be more motivated than were government personnel drafted for the campaign, who complained that they were not given any incentives. "We gave meals to those manning our booths, but people in the government booths complained of remaining hungry," said Mr. Surendra Jain Paras, president of the Rotary Club, Jaipur, which has been managing seven booths within the city besides taking care of three mobile units.

The future success of the polio eradication initiative depends on further community mobilisation. There are also unreached pockets – and psychological barriers to the vaccine – in urban slums as well as in upper-class housing societies.

Campaign organisers in the state also face financial constraints. Most of the money come from the government of India – with a small percentage from the state and also from UNICEF. The Centre has turned down requests for additional funding, pleading financial problems. Campaign managers point out that while Rs 73 lakh was allocated for just two NIDs last year, there are four extra NIDs, with two extra days each time for house-to-house immunisation – all to be done within an additional Rs 84 lakh. The director of family planning, immunisation officers and UNICEF all say that more money is needed. The limitation of funds may prove a major handicap when it comes to innovative planning and improving the network. However, IEC authorities say they will mobilise resources at the district level if necessary.

“We went back to work for the sake of the children...”

Despite the problems the polio eradication campaign faces, the best indication of its future is that trade unions are willing to set aside their grievances to implement this programme. Though 7.5 lakh state government employees went on an indefinite strike in December 1999, they did not prevent those entrusted with the IPPI from participating in the December round of immunisation. Health sector employees were already exempt from the strike, and union leaders showed considerable understanding and cooperation by exempting the education department's staff for the duration of the campaign. Primary schools even revised

their examination schedules to enable teachers to join the campaign. As Mr Baby Lal Saini, a school teacher in Jaipur, explained, “We went back for the sake of the children.”