

Did the national campaign for poliomyelitis vaccination achieve its objectives

Abdulsalam Al-Sulaiman, MD, PhD, Yagob Al-Mazrou, MD, PhD, Mohammed Al-Jeffry, MBChB, DTM, Gazi Jamjoom, PhD, MRCP, Mansour Al-Hawas, MD, MRCP, Amin Mishkas, MBChB, MSc, Abdulrahman Al-Mazrou, MBBS, FRCP(C), Omer Makki, MBBS, MSc, Mohammed Al-Ahadal, BPh, PhD.

ABSTRACT

Objectives: To verify whether the national poliomyelitis vaccination campaign has achieved its objectives. **Setting:** Various regions in the Kingdom of Saudi Arabia (KSA) including Riyadh, Jeddah, Makkah, Tabbouk and Gizan. **Material and methods:** Randomized samples were obtained using the Bowleg's proportional allocation scheme. Housing blocks were selected using simple random sampling procedures. All Saudis and non-Saudis in the selected blocks were screened using a pre-tested questionnaire administered in a face-to-face interview by trained interviewers. The data combined with those of an earlier pilot survey carried out in Al-Khobar area were analyzed. **Results:** A total of 646 households were surveyed; Riyadh 160, Jeddah 82, Makkah 50, Tabbouk 164, Gizan 83 and Al-Khobar 107. The under five population of children was 618. The coverage of the target population was Riyadh 88%, Jeddah 74%, Makkah 93%, Tabbouk 97%, Gizan 100% and Al-Khobar 100%. **Conclusion:** The overall percentage coverage in the Kingdom was 92% which attests to the success of the campaign. An area concern is Jeddah where the percentage coverage was 74% and should receive more attention during the next national vaccination campaign as well as mopping up vaccinations.

Saudi Medical Journal 1998; Vol 19 (1) : 13-14

Keywords: Poliomyelitis, eradication vaccination, Saudi Arabia.

In May 1988, the World Health Organization (WHO) pledged to eradicate poliomyelitis by the year 2000¹ and strategies for achieving this objective were clearly defined.¹⁻⁵ To that effect a nationwide poliomyelitis vaccination campaign was carried out in KSA from the 11th to 13th of Jumada II, 1416H (4th to 6th November 1995) and 13th to 15th of Rajab 1416H (25th to 27th November 1995). Trained health workers administered vaccination on door-to-door basis to all children under 5 years of age. The aim of the program was to vaccinate at least 80% of this targeted population. The present nationwide study was done to find out whether the national vaccination campaign had achieved its objectives or not.

Material and methods. A randomly selected group of household samples were chosen from representative provinces in the Kingdom. The selected provinces were considered at high risk for poliomyelitis. The collective population selected in

the provinces represent 45% of the total population of the Kingdom. The selected areas included: Riyadh, Jeddah, Makkah, Tabbouk and Gizan. Housing blocks were selected using random sampling procedure. All Saudis and non-Saudis in the selected households were screened using a pre-tested questionnaire administered in face-to-face interview by trained interviewers. The questionnaire covered areas of placement of stickers on the immunized households, the accuracy of information displayed in these stickers, the number of vaccinated and non-vaccinated children, the reason for non-vaccination and whether or not the immunized children received certificates of vaccination. Islamic guidance and ethics, local customs and individual wishes were closely observed. The results of an earlier pilot study in Al-Khobar area⁶ were combined with results of the current study for final analysis.

Results. A total of 646 household were surveyed: Riyadh 160, Jeddah 82, Makkah 50, Tabbouk 164,

From the National Committee for certification and eradication of poliomyelitis, King Faisal University, (Al-Sulaiman), Ministry of Health (Y. Al-Mazrou, Al-Jeffry, Al-Hawas, Mishkas, Makki) King Saud University (Jamjoom, A. Al-Mazrou) and King Faisal Specialist Hospital & Research Centre (Al-Ahadal), Riyadh.

Received June 1997. Accepted for publication in final form June 1997.

Address correspondence and reprint request to: Dr. Abdulsalam Al-Sulaiman, Associate Professor & Chairman, Department of Neurology, King Fahd Hospital of the University, P.O. Box 40180, Al-Khobar 31952, Kingdom of Saudi Arabia. Fax No. (03) 864-5972.

Table 1 - Surveyed children population under five years and their immunization coverage

Region	Number of households	Number of children < 5 Years	% Immunization Coverage
Riyadh	160	137	88
Jeddah	82	70	74
Mekkah	50	42	93
Tabbouk	164	140	97
Gizan	83	77	100
Al-Khobar	107	152	100
Total/ Overall	646	618	92

Gizan 83 and Al-Khobar 107. Table 1 gives the distribution of children and the percentage coverage of the targeted population in these regions. The overall percentage coverage was 92%. Reasons for missing the vaccination are shown in Table 2. The survey also showed that vaccination was provided mainly by the national vaccination teams (59.6%), followed by primary health care centers (38.3%) and mobile private teams (1.4%). Vaccination cards were given to 67.8% of the targeted population.

Discussion. Efforts to eradicate poliomyelitis by the year 2000 under the guidance and directives of the WHO continue to bear their benefits. The incidence of poliomyelitis infection is dropping worldwide⁷⁻¹⁴ and some parts of the world were successful in total eradication of poliomyelitis.⁷⁻⁹ One of the major reasons for such achievements is the establishment of national mass campaigns administering oral polio vaccine to all children under 5 years of age. The Kingdom of Saudi Arabia has established successfully such a program. Our present survey showed a high percentage coverage of the target population in Riyadh, Mekkah, Tabbouk, Gizan and Al-Khobar (Table 1). However it was noted that the Jeddah region had a low percentage coverage of 74%. This low coverage in Jeddah is particularly worrying because every year more than a million pilgrims arrive from all over the world forming a venue of potential infections. However, the M.O.H. plans mopping up vaccinations of high risk areas including Jeddah and Makkah. In general the given main reasons for low coverage were lack of knowledge about the campaign, non-attendance by the screening team and absence of the father. These reasons were markedly different from those seen in other parts of the world that include inadequate political support for eradication, insufficient funding, especially for the purchase of vaccine, intensive migration process and some shortcomings in the organization of the health care services.^{3, 15}

In conclusion, the Kingdom's first national vaccination campaign was well planned and executed by the MOH, despite some less than ideal results in

Table 2 - Surveyed children population under five years and their immunization coverage

Reason	No of Children	Percentage
Lack of knowledge about the campaign	31	62
Absence of head of household	7	14
Team did not come	3	6
False contra-indication	3	6
Father too busy	2	4
Negligence	2	4
Parents refused	1	2
Mother is sick	1	2

the Jeddah region. The MOH has started paving the way to the poliomyelitis free-status. Other governmental and private institutions should help maintain and support these efforts until the time when the Kingdom of Saudi Arabia would be declared a "Poliomyelitis-Free country".

References

1. World Health Organization: Global poliomyelitis eradication by the year 2000 plan of action. Geneva; World Health Organization 1992.
2. World Health Organization: Report of the first meeting of the global commission for certification of the eradication of poliomyelitis. Geneva; World Health organization 1995.
3. Hull H. F., Ward N.A. Hull B.P., Milstine J.B. de Quadros C.A. Paralytic Poliomyelitis; Seasoned strategies, disappearing disease, Lancet 1994; 343: 1331-1337.
4. Cochi F.L., Hull, H.F., Ward N.A. To conquer poliomyelitis forever. Lancet 1995; 345: 1589-1590.
5. Patriarca P.A., Foege W.H., Swartz T.A. Progress in polio eradication. Lancet 1993; 342: 1461-1464.
6. Al Sulaiman A.A, Al Mazrou Y., Al Bar A. Did the national campaign for poliomyelitis vaccination achieve its objectives? a pilot study, J of Family and Community Medicine. (In Press)
7. Centers for diseases control and prevention. Certification of poliomyelitis eradication. The Americas, 1994. Morb Mortal Wkly Rep 1994; 13: 720-722.
8. Strebel P.M., Sutter R.W. Cochi S.L., Biellik R.J., Brink W.E., Kew O.M., Orenstein W.A., Hinman A.R. Epidemiology of poliomyelitis in the United States one decade after the last reported case of indigenous wild virus-associated disease. Clin Infect Dis 1992; 14: 568-579.
9. Pan American Health Organization. Strategies for the certification of the eradication of wild poliovirus transmission in the Americas. Bull PAHO 1993; 27: 287-296.
10. Anonymous. Progress toward global poliomyelitis eradication 1985-1994 Morb mortal Wkly Rep 1995; 44: 273-281.
11. Anonymous. Expanded programme on immunization. Progress towards poliomyelitis. Weekly Epidemiological Record 1995; 70: 97-101.
12. Biellik R.J., Ruono H., Olive J-M., de Quadros C. Poliomyelitis case confirmation: Characteristics for use by national eradication programmes. Bull WHO 1992; 70: 79-80.
13. Cochi S.L., Orenstein W.A. Commentary: China's giant step toward the global eradication of poliomyelitis. Pediatr Infect Dis J 1995; 14: 315-316.