

Mumps vaccination coverage: Riyadh children, 1996

A survey by 4th year medical students to ascertain the coverage and efficacy of the mumps vaccine in southwest Riyadh was done from 27/10 to 21/11 1416 Hijra.

Three primary health care centers (PHCCs) (Oraija Al-Gharbi, Al-Suwaidi and Al-Shafa) serving 134,386 residents were selected. Parents of children aged one to 10 who visited one of the three selected PHCCs for any reason during afternoon working hours were interviewed.

Of 698 children assessed, 368 (52.7%) were males and 330 (47.3%) were females (mean age of five years, standard deviation [SD] \pm 2.5). Saudis constituted 682 (97.7%) of those interviewed. MMR vaccine coverage among the children was 98.7%. Parents of 10 children reported possible post-vaccination complications including post-vaccination skin rash (4) and post-vaccination febrile seizures (6).

Among unvaccinated children, parents reported that the vaccines were missed because they were on vacation at the time vaccination was due (age 12 months), the appointment was forgotten, careless attitude toward vaccination, or the child was ill at the time the vaccination was due.

The main symptom of those who acquired mumps was parotitis (eight right side only, six left side only, and four bilateral). Of 18 children who had a history of mumps, the age ranged between seven months and eight years at the time of the disease, the mean age was 3.8 years (SD \pm 2.1). Out of 689 vaccinated, 17 developed mumps compared with one of nine who did not receive the vaccine. Of 619 (89.8%) children vaccinated on time (at the age of 12 months), 14 (2.3%) acquired mumps. While out of 67 children who did not receive the vaccine on time, three (4.5%) acquired mumps.

We found no association between acquiring mumps infection with age, education or occupation of the parents.

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Editorial note: The classical symptom of mumps is parotitis which may be unilateral, or bilateral. However only 30-40% of infections produce typical acute parotitis while the rest result in non specific or primarily respiratory symptoms and 15-20% of mumps infections are asymptomatic. The diagnosis of mumps is usually made clinically based on the presence of parotitis. This routine physician based reporting or parent recall will underestimate mumps incidence(2).

At least 10 mumps vaccine strains are in use throughout the world(2). All strains appear to induce high levels of seroconversion. These vaccines contain live attenuated mumps virus, and are available either as a single vaccine or in combination with rubella & measles live virus vaccines (MMR). MMR is the preparation most often used in Saudi Arabia. The vaccine may be administered any time after one year of age, preferably as MMR at 12-15 months of age. More than 95% of recipients develop immunity that is long-lasting and may be lifelong. Vaccination of people already immune, either by wild or vaccine-virus infection, is not associated with increased risk of adverse reactions(3).

The mumps vaccine is contraindicated in persons with immune deficiency disease or suppressed immunity due to any other cause. Persons with severe febrile illnesses should in general not be vaccinated until they have recovered. However vaccination should not be postponed because of minor illness. Adverse reactions to

mumps vaccination have been infrequently reported. Most common are: parotitis, fever, rash, febrile seizures, deafness and although rare meningitis and encephalitis(2,3).

In the Kingdom, MOH first introduced the mumps vaccination program in the mid 1970s, it consisted of voluntarily vaccinating children with the MMR vaccine (Urabe mumps Strains) when reaching 15 months of age. In January 1991, MOH implemented a new requirement that all children to complete all the recommended vaccinations including MMR for the first 12 months of life before he or she would be issued a birth certificate (Infectious Diseases Department MOH).

Mumps is among the diseases reported routinely to MOH. Although the incidence of mumps has been in decline (Figure), doctors are still facing cases of mumps among previously vaccinated children(4). The high coverage rate of mumps vaccination is attributed to the delivery of the vaccines in general through PHCCs and the increase of the public's awareness.

References:

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Figure. Reported mumps cases in Saudi Arabia, 1992-1995.

