

Elimination of Blinding Trachoma in Oman

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Trachoma is a highly infectious blinding eye disease. It is caused by bacteria called *Chlamydia trachomatis*.¹ The infectious stage, known as active trachoma in children is often asymptomatic. As infection does not result in immunity, repeated cycles of trachoma infection could take place in the same eye and will result in scarring of ocular tissues. This leads to in-turning of eye lashes in old age, dry eye, ulcers and finally resulting in corneal blindness.

Azithromycin; an oral antibiotic (single dose of 20 mg/Kg body weight) is the recommended treatment for active infection.^{2,3} Azithromycin eye drops (twice a day for three to five days) are also now available.⁴ The lid surgery is required to treat trachomatous trichiasis (TT). Corneal transplant surgery for trachomatous corneal opacity has been found successful in early stages.⁵ Dry eye is treated by lubricant eye drops. In addition to treating cases of trachoma with antibiotics and operating eyes with TT, a public health approach is essential for addressing blindness due to trachoma in the community.

Availability of water to keep face clean, environmental changes to prevent transmission of organisms by vectors like flies, healthy behaviour of the community and access to health services are vital to combat trachoma. Therefore, trachoma is linked to poverty.⁶ With rapid socioeconomic development, many countries have now experienced a remarkable decline of trachoma. As trachoma is a preventable cause of blindness, the World Health Organization has included it as one of the priority diseases in the global initiative for Eliminating Avoidable Blindness called VISION 2020 The Right to the Sight.⁷ It should be noted that the goal is to eliminate blindness caused by trachoma and not the eradication of trachoma infection. The strategy to reach the goal was known as SAFE strategy. This acronym covered 'S' surgery for TT, 'A' antibiotic treatment for active trachoma, 'F' facial cleanliness and 'E' environmental changes.

Oman is one of the member countries of the Global Alliance for the Elimination of Blinding Trachoma. This disease reached epidemic proportion in the 70s and hence a public health program titled; 'Trachoma control' was initiated in Oman in 1975.⁸ Reinvestment of petrol income to develop infrastructure for health, education, water, sanitation, communication and transport resulted in rapid socioeconomic changes in the last quarter of the 20th century. The Gross Domestic Product (GDP) per capita in Oman increased from US \$ 425 to US \$ 15,000 in 2008. The communicable diseases and under-5 mortality rates rapidly declined to the current level of 13/1,000 live births from 118/1,000 live births in 1970.⁹

For organized public health approaches to combat blindness

the Ministry of Health renamed the Trachoma Control Program as The Prevention of Blindness program in 1983 on recommendations of the WHO. It was once again renamed as Eye Health Care Program in 1990 to make it a comprehensive health programme.¹⁰ In spite of adopting the philosophy of integrating eye care in primary health care, empowering regions and generating local manpower, the focus continued to be on trachoma. This was evident in 6th and 7th Five year Health Plans for Oman that had specific activities and indicators related to trachoma control.¹¹

In the past, when trachoma was of epidemic proportion, its distribution was not uniform in all regions of Oman. Northern and Central Oman had trachoma of public health magnitude while residents of Dhofar region were not having trachoma unless, they had migrated from north of Oman or other trachoma endemic countries. From the end year 2000, trachoma was found in pockets of 20 wilayats of three health regions of Oman namely Dhakhiliya, North Sharqiya and South Batinah.¹² Therefore, the eye health care program divided the country into trachoma endemic areas of recent past (3 regions), trachoma areas (other regions of northern and central Oman) and low trachoma endemic area (Dhofar and Muscat capital).

The Eye Health Care had a ten-year goal for eliminating blinding trachoma by 2010.¹³ It is a member of WHO's global alliance for the elimination of Blinding trachoma and periodically reports to the alliance about the progress and achievements.¹⁴

The active infection of trachoma was consistently less than 1% among school children and in preschool children of Oman. This was found in a survey that was conducted in conjunction with the polio supplementation campaign in 2004.¹⁵ The goals for F & E strategy of trachoma control were achieved in the year 2000.¹⁶ Subsequently, they were part of the Millennium Developmental Goals of Oman to ensure the achievements of ultimate intervention goals for surgery (UIGS) for F & E are sustainable. The surveillance system for active trachoma was integrated in the surveillance of other communicable diseases to ensure cost-effective monitoring of the achieved decline from 2005 onwards.¹⁷

In 2005, a national survey suggested that the UIGs for 'S' surgery component of the SAFE strategy of trachoma control in Oman was yet to be reached. Three regions had pockets with TT still more than 1/1,000.¹⁸ Short-term and long-term outcomes of Bilateral Tarsal Rotation surgery for TT in Oman had high recurrence rates.^{19,20} Therefore, alternative methods have been attempted.^{21,22} The facilities to address TT as well as active trachoma through existing health services are available to all citizens free of cost. Therefore, the eye health care program decided to continue the overall VISION 2020 initiative to address

avoidable blindness in Oman. This was more crucial in view of the rapidly increasing problem of diabetes and its complication reaching public health proportion.^{19,23}

The revision of the definition for UIGs for 'S' component of SAFE strategy for the elimination of blinding trachoma encouraged the health staff in Oman and they established a 'Certification committee' within the National Eye Health Care Committee.²⁴ As per the suggestions by WHO consultants and discussions during the Alliance meetings, Oman undertook additional trachoma control related activities in 2008 and 2009.

In 20 wilayats of three trachoma endemic regions of recent past, two villages in each wilayat were selected randomly and all 40 populations were targeted for TT screening. Each wilayat was found to have less than one person with TT who was not managed or had been approached in the past for intervention.²⁵

A similar exercise was conducted in one village of each of the six northern regions and central Oman with low trachoma endemic status in 2009. In these villages, people of more than 40 years of age did not have TT cases which were not managed or had been approached in the past.

Oman by the end of 2008 had reached all the four UIGs and systems exist in the country to monitor the progress and identify any increase in the incidence of active trachoma. Collaboration of different ministries, NGOs and WHO should continue for the trachoma control in the coming years. It will also help in sustaining the achievement of eliminating Blinding Trachoma in Oman at least for the next three years.

The National Eye Health Care Committee has submitted data on trachoma, publications, government documents related to trachoma in Oman to WHO and Global Alliance for Elimination of Blinding Trachoma for scrutiny and further actions to certify Oman for the eradication of blinding trachoma. The contribution of health staff, administrators of different ministries and Omani people at large has made this task possible.

Overall, active monitoring through comprehensive surveillance activities and integrating trachoma within the VISION 2020 for public health approaches in the coming years will surely sustain Oman's achievements in combating blindness caused by trachoma.

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