REVIEW

Epidemiology and Control of Trachoma in Nepal

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Trachoma is a communicable eye disease caused by the organism known as chlamydia trachomatis, by nature, which lies between bacteria and viruses, sharing some of the properties of both. It has been estimated that nearly 500 million people of the world, mainly those from rural communities of developing world, are affected by this disease. Approximately 2 million people in the world are blind due to trachoma, and a much larger number suffer partial loss of vision.

Symptoms and Sequelae:

The onset of the disease is usually gradual. In endemic areas, it is contracted in childhood but has minimal symptoms. In mild cases there is slight discomfort and watering of the eyes, the sensation of having sand in the eye, itching, redness and a little discharge in the morning. In severe cases there is marked dislike to the light and watering of the eyes.

To start with, mainly, the part of the eye involved in this disease is the mucous lining covering the inner surface of the eyelids and the surface of eyeball. This mucous lining is known as conjunctiva.

In chronic cases the transparent window of the eye known as cornea is also involved.

Trachomatous inflammation may undergo spontaneous resolution, or may progress to

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cause conjunctival scarring in later stages. By the contraction of the new-formed scar tissue the lids may be turned inwards (entropion), causing the eyelashes to rub against the cornea (trichiasis). Thus, the intumed eyelashes may abrade the cornea and make it opaque or ulcerated leading to decrease in vision or to total blindness. There is constant pain and discomfort in patients with trichiasis and entropion from the intumed eyelashes that abrade the cornea. Affected people often seek temporary relief by plucking out the lashes. The irreversible changes causing blindness appear as the long-term outcome of prolonged or recurrent trachomatous infection of moderate or severe intensity. Blinding lesions are generally observed in adults as the scarring continues to distort the lids, even after the infection has cleared leading to trichiasis or entropion.

Mechanisms of Transmission:

Trachoma spreads by the transference of conjunctival secretion from eye to eye by direct or indirect contact with contaminated fingers, clothing, towels, eye cosmetics, or other objects. Above all flies play a major role in the transmission of the disease and no wonder the disease flourishes among people whose surroundings are unhygienic and who are crowded together in an unhealthy environment wherein dirt abounds. Unavailability of sufficient water for household use, inadequate disposal of human and animal waste contribute to an increase in the fly population. The flies which cluster on children's eyes and feed on ocular discharges transfer the pathogens and act as a passive vector. Most children are infected by the age of 1 or 2 years. These children, who constitute a large proportion of the population in developing countries, with active diseases are the chief reservoir in the community.

Prevalence of Trachoma in Nepal:

We had no scientific description of the eye problems of Nepal, prior to the conduction of Nepal Blindness Survey of 1980-81. This was a nation-wide multipurpose interdisciplinary study regarding the eye problems and has given us a clear idea about the eye diseases prevalent in Nepal. Nepal is the first developing country where a nation-wide survey of blindness, including an in-depth epidemiological study of the causes of blindness was carried out.

The Nepal Blindness Survey 1980-81 revealed that 6.5% of the population in Nepal had trachoma. With the population of more than 16 million it can be estimated that at present more than one million persons have trachoma. Conforming to the natural history of trachoma, most cases found in the survey were relatively mild and less than 1 out of every 50 cases of

trachoma had resulted in blindness. There were an estimated 58,328 persons with trichiasis or entropion at that time. These conditions caused by lid deformities are potentially blinding as they cause corneal opacification. There were an estimated 2,822 persons blind and an additional 9,453 persons blind in one eye from trachoma. With the remarkable population rise since then the number of cases can be expected to be much higher now.

Geographic Characteristics:

It is interesting to note that though the density of population is much higher in the East and central region of Nepal, most trachoma and its major blinding consequences (trichiasis, entropion and corneal opacification) is clustered in Western terai. Bheri zone alone contains one-third of the trachoma, trichiasis and entropion and trachoma blindness in Nepal. The area within a radius of 100 kilometers of Nepalgunj, contains nearly one-half of the trachoma, trichiasis and entropion, and trachoma blindness in Nepal and the area within its radius of 200 kilometers contains three-quarters of these. It is obvious that this particular area is hyperendemic for trachoma. In this area 26.6% have trachoma, which is very high from public health point of view, whereas nation-wide 6.5% of the population is affected. Approximately 2% of the persons residing in the area have trichiasis and entropion. This prevalence rate is 5 times greater than the national average.

Demographic Characteristics:

The survey result showed that out of those blind from trachoma in both eyes two-thirds were women. Same way three-quarters of those with trichiasis and entropion from trachoma were women and the prevalence was very high among women over the age of thirty. Active infectious trachoma was found prevalent among the children under the age of 10 years. As women come into more close and constant contact with infected children, it may be the reason why women suffer from more recurring episodes of trachoma than do men.

Community Patterns:

Though it is not a racial disease and no race is exempted from trachoma, in Nepal three out of the 75 ethnic groups (the Chhetri, Magar and Tharu) account for nearly 60% of Nepal's trachoma, more than 60% of the trichiasis and entropion, and more than 85% of trachoma blindness. Tharus have the highest prevalence rate. The trachoma hyperendemic area of western Nepal is predominantly populated by Tharus. It is worth mentioning that Tharu, Magar and Chhetri women accounted for all of the blindness due to trachoma found in the survey.

Prevention and control:

The Nepal Blindness survey has clearly defined the problems caused by trachoma and shown it to be a major public health problem in Nepal. Fortunately it is the most readily preventable cause of blindness by the application of relatively simpler and inexpensive measures. Keeping in mind the geographic and demographic characters of this disease in Nepal, an intervention programme for prevention and control of the disease is a high priority in the affected areas. Nepal Prevention and Control of blindness project has launched such programme in hyperendemic areas of Western Nepal (Mahakali, Seti and Bheri Zones) which consists of medical care, health education, training and community involvement. Under this programme mobile teams go from village to village to search and treat the patients, give basic eye health education and train health workers of various levels and to community health leaders. Many national and international agencies are helping for it.

Apart from the problem identification, priority setting, resource allocation, and medical intervention, organisation and implementation of a successful trachoma control programme requires training and utilization of local health aids and other non-specialized health and social Workers. Community participation and health education is of even more importance. Trachoma being a disease closely related to behaviour, stimulation of community awareness to maintain personal hygiene plays a major role in the prevention and control of the disease. Simple hygienic measures like keeping the eyes, faces and hands clean and washing the clothings and other infected articles regularly are of great importance in lowering the transmission of the disease and prove effective both in prevention and treatment. "Non-health" personnel such as social workers, teachers, punchas and others should be trained for this purpose. As the disease is more prevalent in women in Nepal, Women's Organizations like Nepal Mahila Sangathan, Mother's Club and various Officers 'wives' associations might play very motivating and effective role for prevention and control of the disease and it will be a solid contribution for the welfare of the society. Inclusion of the eye health education in the curriculum of the primary and secondary level school children will also have a long-term and positive impact towards elimination of trachoma from Nepal and should be taken into consideration promptly.

Conclusion :

Trachoma has been eliminated from the developed countries but they never applied the measures discussed above in their countries. It is quite clear that with the rise of the socio-economic condition of the community the disease gradually disappears by itself. But in the present

context application of the above measures in this country is very essential to get rid of the miserable conditions caused by the disease and the disease itself.

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