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35th WEDC International Conference, Loughborough, UK, 2011**THE FUTURE OF WATER, SANITATION AND HYGIENE:
INNOVATION, ADAPTATION AND ENGAGEMENT IN A CHANGING WORLD****The elimination of blinding trachoma in Ghana through
improving access to water and latrines***A. Aboe, S. Bush & H. Faal, Ghana***BRIEFING PAPER 1211**

*The cause of trachoma is *Chlamydia trachomatis*, but its main determinant is poverty, especially low water and latrine coverage. The trachoma global control programme strategy is S.A.F.E.: Surgery and Antibiotics – medical interventions; Facial cleanliness and Environmental improvement – social interventions. Over a ten year period, 2000-2010, the Ghana Trachoma Control Programme has reduced the prevalence of trachoma from 9.7-16.1% to less than 2.8% in endemic districts. Through increased water coverage from a low 6.67% to a high 96.3%, and latrine coverage from a low 1% to a high 30.8% at district level as part of a comprehensive SAFE strategy, Ghana is set to achieve the elimination of blinding trachoma, the first sub-Saharan country to do so. The strong collaboration between the health, education and WATSAN sectors within the National Trachoma Taskforce has demonstrated how a disease of poverty can be successfully eliminated and contributions made to the MDGs.*

Background

Trachoma is the leading cause of preventable blindness in the world. In 2003 WHO estimated that 84 million people were suffering from active trachoma, 7.6 million people are visually impaired or blinded as a result of trachoma (WHO 2003). Population-based surveys provided recent information for 42 out of 57 endemic countries. 40.6 million people are estimated to be suffering from active trachoma, and 8.2 million are estimated to have trichiasis (Mariotti et al. 2009). Overall, Africa is the most affected continent: 27.8 million cases of active trachoma (68.5% of all) and 3.8 million cases of trichiasis (46.6% of all) are located in 28 of the 46 countries in the WHO African Region, with an estimated population of 279 million living in endemic areas (Mariotti et al 2009).

Trachoma is a disease of the poorest of the poor and those who are deprived of water and sanitation and is thus common in developing countries. Trachoma begins in early childhood and progresses over the years as episodes of re-infection cause inflammation and scarring of the conjunctiva. The scarring causes the upper eyelid to turn inwards thus causing the eyelashes to rub on the cornea (cicatricial trachoma or trichiasis). This in turn results in corneal abrasions, corneal scarring, opacification and ultimately blindness, usually at age 40 years and above, although trachoma blindness has also been seen in people much younger (Bowman et al 2001).

The elimination of blinding trachoma would vastly contribute to the improvement of the quality of life, provide relief from the suffering from the misery of trichiasis – eyelashes rubbing on the cornea, prevent blindness and raise them out of poverty as they return to active work. This will in turn contribute to the socio-economic development of their communities. The strategies in tackling trachoma would contribute to the overall improvement of health systems and the social determinants of health.

WHO made a call in 1997 for a Global Elimination of blinding Trachoma by 2020 and endorsed a strategy- SAFE. SAFE stands for:

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| Surgery | - To correct in-turned lashes |
| Antibiotics | - To treat active infection, using Azithromycin |
| Facial Cleanliness | - To reduce disease transmission through face washing |

Environmental Improvement - To increase access to clean water and improve sanitation to facilitate disease elimination

WHO has defined elimination of blindness due to trachoma as:

- The prevalence of active trachoma – which is characterized by redness, itching and discharge in the eyes as well as the presence of follicles in the conjunctiva of the upper eyelid – is less than 5 percent among children aged 1-9 years old and
- The prevalence of trachoma trichiasis – in-turned eyelashes rubbing on the cornea – is less than 1 case per 1,000 population.

Since this call, many stakeholders have heeded the call in providing drugs, funds, clean water, sanitation facilities and technical support for implementing the WHO endorsed SAFE strategy for the control of trachoma. Also implementing the full SAFE strategy contributes to the achievement of all the Millennium Development Goals. Surgery prevents blindness and contributes to poverty reduction (MDG1). Children are healthier and can attend school regularly (MDG2) Provision of sanitation facilities in schools promotes girl attendance (MDG2) Provision of safe water reduce incidence of diarrhoeal diseases thereby contributing to infant and child mortality (MDG4, 5, 6) Improved environment (MDG7) Improved partnerships (MDG8)

Ghana

“Ghana Free of Blinding Trachoma” is the vision of the Ghana Trachoma Control Programme which has its goal of eliminating blinding trachoma from Ghana by 2010. Baseline epidemiological surveys conducted in the two endemic regions (Northern and Upper West Regions) in Ghana showed that the prevalence of active trachoma ranged from 2.8 to 16.1% among children aged 1-9 years old and the prevalence of trachoma trichiasis ranged from 0.4 to 8.4% among adults above 40 years at the district level. About 2.8 million people are at risk of the disease and an estimated 13,000 people had trichiasis (the potentially blinding stage of the disease) at the inception of the programme. The Ghana Health Service together with all partners has been working in a concerted effort to get Ghana free of trachoma blindness. The programme started in the year 2000 after baseline survey results showed that there was trachoma of public health significance in the Northern and Upper West Regions. Control activities using the WHO endorsed SAFE strategy, including the provision of safe water and latrines, were implemented in all the endemic districts. An Impact Assessment Survey and a Mid-Term Review carried out in 2007/2008 indicated that the prevalence rates of active trachoma had reduced to between 0.14% and 2.80% at the district level.

Key activities, key achievements and partners of the programme

Implementing S&A - the medical interventions for trachoma

The Ghana Trachoma Control Programme has been implementing the full SAFE strategy over the past 10 years. The overall coordinator for the programme is the Ghana Health Service/Ministry of Health. Surgery to correct the in-turned eye lashes of affected individuals was conducted. So far over 5,000 people have benefitted from this lid surgery. The partners which support trichiasis surgery include the International Trachoma Initiative (ITI), Sightsavers, Operation Eye Sight Universal and the Swiss Red Cross. Pfizer, a pharmaceutical company in the USA donated the antibiotic Zithromax® through the I.T.I. to be used to treat members of endemic communities. Over 3.3 million doses of this drug have been given to treat about 1 million people for at least three consecutive years. Hygiene promotion through electronic and print media as well as direct household and community sessions were conducted in all the endemic districts. School health education activities were also conducted in all the 29 endemic districts by the Ghana Education Service through its School Health Education Programme.

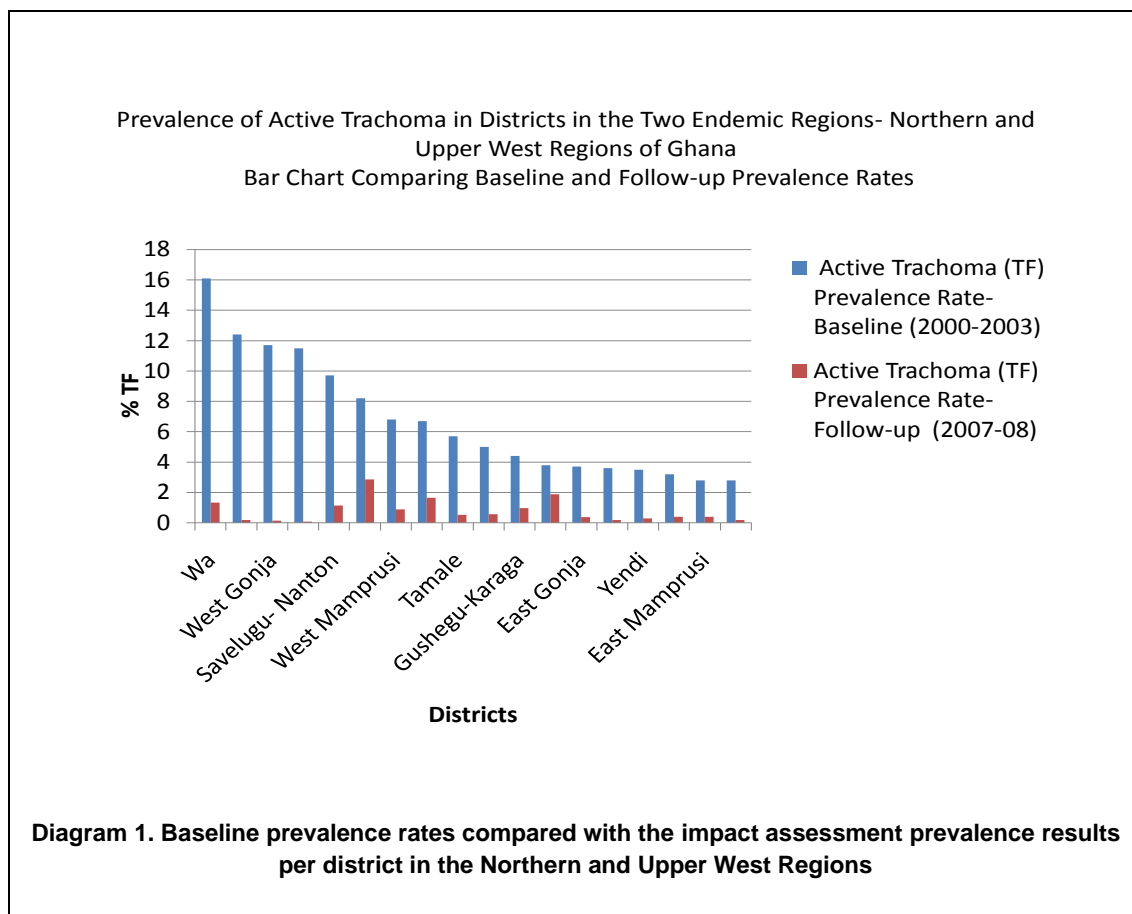
Implementing F&E - the social and development interventions for the trachoma

Water and household latrines were provided by both the Government of Ghana and other partners. Our key partners in the Water and Sanitation sector include the Community Water and Sanitation Agency (CWSA) Environmental Health Divisions of the District Assemblies and the Ministry of Local Government, Rural Development and Environment. International NGOs such as World Vision Ghana, WaterAid Ghana and The Carter Center provided water and household latrines to endemic communities. UNICEF also provided

safe water and latrines to schools in the endemic districts. Together over the last 10 years, these partners provided a total of 5,354 safe water points such as small town systems, boreholes and hand dug wells; and more than 12,000 household latrines.

Impact

The water coverage improved from 50% to 80% and latrine coverage improved from as low as 1% to 38% in the programme areas. The backlog of people with trichiasis reduced from 13,000 to less than 5,000. The impact of all this was a reduction in the prevalence of active trachoma from 16.1% to as low as 2.8% – well below the WHO accepted prevalence of 5%. The percentage of children with clean faces – faces without discharge – rose from 70% to 93% in the endemic areas.



Discussion

The benefits of the provision of water and sanitation facilities as part of the efforts in implementing the full SAFE strategy in trachoma endemic communities cannot be overemphasized. The programme in Ghana proves this point where the prevalence of trachoma has been greatly reduced from as high as 16% to a low of 2.8% for active trachoma. Similar results have been seen in a country such as Morocco, where implementing the full SAFE strategy led to a reduction of blinding trachoma to a level that it is no longer of Public Health significance (Kumaresan & Mecaskey 2003; Ministry of Health Morocco 2006). The provision of water and sanitation as part of development led to the elimination of blinding trachoma in parts of Europe. During the 19th and early 20th centuries, trachoma was widespread in Europe and North America and was a leading exclusion criterion for European immigrants coming through Ellis Island into the United States (Markel 2000). Due in large part to improvements in hygiene and sanitation, trachoma is no longer endemic in these areas. Rather it persists in the world’s poorest, under privileged and least served communities (Allen & Semba 2002). Women and men who have had surgery have been able to get back to economic activities to support their homes. This helps in reducing poverty. Women are able to use their time for other gains when access to clean water is easier. This helps to reduce poverty and improves lives of

individuals and whole communities. Based on the risk factors of dry dusty environment, lack of water and lack of proper disposal of excreta, for trachoma, there is an assumption that where there are no water and sanitation facilities, communities which had earlier on been seemingly free from trachoma may see the disease bouncing back. This has not however been proven. Access to and use of safe water and sanitation could help to maintain the gains made through the use of antibiotics in treating active disease. Thus the role of our partners in the WATSAN sector in the programme to eliminate blindness due to trachoma and maintain gains made is very crucial.

Conclusion

The implementation of the full SAFE strategy for the control of trachoma by a strong partnership of both medical and socio-development agencies and organizations working together towards a common goal, placing equal importance on the provision of water and sanitation facilities and the medical interventions of surgery and treatment with antibiotics has brought Ghana close to the elimination of blindness due to trachoma.

The authors would like to extend thanks to the Ghana National Trachoma Task Force members, Ghana Health Service/Ministry of Health and all partners of the Ghana Trachoma Control Programme including the districts and community members of the endemic communities.

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