Surgery for trachomatous trichiasis

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Description of condition and intervention

Trachomatous trichiasis (TT) is leading cause of blindness and visual impairment, which can be occurred in the later stage of trachoma infection. It can happen due to repeated infections of the inner part of the upper eyelid affect the upper eyelid to turns inwards, which causing continues pain and unable to see the light, then the eye can be scarring the cornea. About 2.5 million individuals among all age groups were live with this disease, and 92622 were received the surgery treatment in 2019 ((WHO), 2019). Women are more affected than men in low- and middle-income countries (LMICs), women are more vulnerable to develop trachoma because they are more responsible to take care the household and children ((WHO), 2019).

This public health problem can be prevented and controlled through strengthening the implemented elimination programme. World Health Organization (WHO) recommended the acronym called SAFE strategy, which means: **S**-Surgery to treat the blinding stage (TT); **A**-Antibiotics to clear active trachoma infection; **F**-Facial cleanliness, and **E**-Environmental improvement to minimize the transmission through improving the access of water and sanitation in endemic areas.

Surgery for trachomatous trichiasis
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Cluster: Hearing & Vision Improvement

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International guidelines

Organization	Indications/recommendations	Applicability in LIC & Lower MIC settings
WHO	SAFE Strategy	**yes**

Source: Trachoma (who.int)

Intervention attributes

Type of interventions
Curative

Delivery platform
This intervention is delivered at referral and specialty hospital.

Equity
In addition to considerations like cost-effectiveness and health systems factors, dimensions of equity can be relevant for priority setting. The opportunity for a long and healthy life varies according to the severity of a health condition that individuals might have, so there are inequities in individuals' opportunities for long and healthy lives based on the health conditions they face. Metrics used to estimate the severity of illness at an individual level can be used to help prioritize those with less opportunity for lifetime health. FairChoices: DCP Analytics Tool uses Health adjusted age of death (HAAD), which is a metric that estimates the number of years lived from birth to death, discounting years lived with disability. A high HAAD thus represents a disease less severe in terms of lifetime health loss, while a low HAAD represents a disease that is severe on average, causing early death or a long period of severe disability. It is also possible to estimate the distribution of HAAD across individuals with a health condition. FairChoices shows for each intervention an average HAAD value of the conditions that are affected by respective interventions that have health effects. Additionally, a plot shows HAAD values for around 290 conditions (Johansson KA et al 2020).

Time dependence
Low level of urgency. Treatment outcomes not highly affected by some days of delay.

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Population in need of interventions

Treated population: Individuals with trachoma and requiring surgery in the age-group of 15 to 99 years. The treated fraction is assumed 100% (based on prevalent cases).

Affected population: Individuals with trachoma who received the surgical intervention in the age-group of 15 to 99 years. The affected fraction is assumed 100% (based on prevalent cases).

Disease states addressed

This intervention targets to treat trachoma in the target population.

Intervention effectiveness and safety

Table 1: Effectiveness and safety of cataract surgery

What happens?	No intervention	With intervention	Certainty of evidence	Transferability of evidence
Disability	0.9 reduction assumed		Low	

Model assumptions

Table 2: Summary of model parameters and values used in FairChoices – DCP Analytical Tool

Category	Model parameter	Notes
Intervention	**Surgery for trachomatous trichiasis**	
Cost calculation		
Treated population	Adults with condition	Prevalence of trachoma from GBD Study 2019 used to model this population
Gender	Both	
Age	15 to 99 years	Assumed intervention is for higher burden age groups
Treated fraction	1	Based on prevalence of trachoma
Effect calculation		
Affected Population	Adults with condition	

Affected gender	Both	
Affected fraction age	15 to 99 years	
Affected fraction	1	
Comparison	No care	
Disability Reduction (RRR)	0.9	Assumed

Intervention Cost

The total unit cost is estimated to be USD 108.92 (Year: 2012).

The total unit cost is estimated to be $8.67 (Year: 2020) per surgery procedure per person in Ethiopia. The overhead total unit cost (including laundry, cleaning, and security) is estimated to be $0.98 per surgery procedure per person in 2020.

References

Johansson KA et al 2020: Johansson KA, Coates MM, Økland JM, Tsuchiya A, Bukhman G, Norheim OF, Haaland Ø. Health by disease categories. Distributional Cost-Effectiveness Analysis: Quantifying Health Equity Impacts and Trade-Offs. 2020 Sep 30:105.

(WHO), W. H. (2019). World report on vision. . Geneva: Licence: CC BY-NC-SA 3.0 IGO.

Appendix

Literature Review for effectiveness & safety

This literature search is an example of Level 1 search for intervention inputs taken from DCP3 or generated in an ad hoc manner (e.g., quick google search found one study of cervical cancer screening cost-effectiveness that was used to create an effectiveness parameter for that intervention).

Level of evidence of efficacy studies:

1. low (expert opinions, case series, reports, low-quality case control studies)
2. moderate (high quality case control studies, low quality cohort studies)
3. high (high quality cohort studies, individual RCTs)

4. very high (multiple RCTs, meta-analysis, systematic review, clinical practice guidelines)