

# Gender equity and trichiasis surgery in the Vietnam and Tanzania national trachoma control programmes

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**Aims:** To calculate the gender distribution of trichiasis cases in trachoma communities in Vietnam and Tanzania, and the gender distribution of surgical cases, to determine if women are using surgical services proportional to their needs.

**Methods:** Population based data from surveys done in Tanzania and Vietnam as part of the national trachoma control programmes were used to determine the rate of trichiasis by gender in the population. Surgical records provided data on the gender ratio of surgical cases.

**Results:** The rates of trichiasis in both countries are from 1.4-fold to sixfold higher in females compared to males. In both countries, the female to male rate of surgery was the same or even higher than the female to male rate of trichiasis in the population.

**Conclusions:** These data provide assurance of gender equity in the provision and use of trichiasis surgery services in the national programmes of these two countries. Such simple analyses should be used by other programmes to assure gender equity in provision and use of trichiasis surgery services.

Trichiasis, the potentially blinding complication of trachoma, is relatively frequent in communities that are, or were, hyperendemic for trachoma.<sup>1</sup> In many settings, women are two to four times as likely to have trichiasis, in part as a result of their exposure to young children who are the reservoir of infection.<sup>1</sup> Trichiasis, even apart from its impact on vision, has a devastating impact on the daily lives of people affected. Women with trichiasis but no vision loss have been shown to have the same difficulty with daily activities as women who had vision loss from other causes.<sup>2</sup>

Trichiasis can be corrected by appropriate lid surgery, which everts the inturned eyelashes.<sup>3</sup> There are numerous, theoretical, reasons to postulate that women do not have trichiasis surgery proportional to their needs, compared to men. These gender equity concerns can be based on women having less access to money (for surgery or for travel or hospital expenses), less time from chores to get surgery, more fear of the procedure and any unsightly after effects.<sup>4–6</sup>

Gender inequity has been discussed in a myriad of arenas, including food distribution, mortality, mental health, reproductive health, education, and in the context of health sector reform.<sup>7–13</sup> In ophthalmology, there are limited data that address gender equity in access to services, particularly in low and middle income countries. One study in Nepal suggested that women were significantly less likely to obtain cataract surgery than men, although women had more cataract<sup>14</sup>; reasons for the disparity were not specified.

Gender equity is a significant issue for the World Health Organization, which has a mandate to eliminate blinding trachoma by 2020.<sup>15</sup> Considerable resources are being directed to trachoma control in several trachoma endemic countries worldwide. These include the training of trichiasis surgeons, and infrastructure and staffing to identify cases and deliver village based surgery for trichiasis. If trichiasis surgical services are not being utilised by women, in proportion to their need, then the goal of eliminating avoidable blindness due to trachoma will not be achieved.

In this paper, we review the gender distribution of trichiasis cases, compared to the gender distribution of trichiasis surgical cases, based on data from two national

country programmes, Vietnam and Tanzania, and discuss the data in terms of country programme needs.

## METHODS

Surveys were carried out for the purpose of evaluating the national programmes in each country. Data were collected on the age and gender of the population, and signs of trachoma, using the World Health Organization simplified grading scheme, in each country. Details for each country are described.

### Tanzania

Programme evaluation surveys were done on randomly selected villages in each district enrolled in the national trachoma control programme. Neighbourhoods within the villages were randomly selected for survey. All people were eligible for examination. Data on age, gender, and whether trichiasis was unilateral or bilateral were collected. Data from four districts were selected because the data on gender of the trichiasis cases that went to surgery were also available. The data in surgical records was based on eyes so to compare the ratio properly we converted the data on prevalence in the district of people to prevalence of eyes with trichiasis.

### Vietnam

Data came from the five districts in three provinces where the national trachoma control programme is operating. Data on the number, and gender, of trichiasis cases were based on screening the entire population for trichiasis and creating lists of cases during implementation of the SAFE programme. Data on age and gender of the operated cases came from the surgeons' records, and district quarterly and annual reports. In Vietnam, data were available on number of people examined, total number of cases of people with trachomatous trichiasis, and total number of operated cases (with unilateral or bilateral surgery). Thus, the data allow comparisons of gender ratios using people. The gender ratios of the prevalent cases (or eyes) of trichiasis should match the gender ratios of the surgical cases (or eyes) if there were no factors interfering with women receiving the surgery.

**Table 1** Tanzania: gender distribution, comparing trichiasis surgeries reported for four districts (2000) with trichiasis eyes (1999) in sampled villages

District	Males		Females		Ratio: female/male
	No (eyes)	% Trichiasis (95% CI)	No (eyes)	% Trichiasis (95% CI)	
Kongwa: 120 surgeries (eyes) 88 in females 32 in males female/male ratio: <b>2.75</b>	1524	1.1 (0.5 to 1.8)	1722	2.3 (1.5 to 3.2)	<b>2.12</b>
Mpwapwa: 143 surgeries (eyes) 124 in females 19 in males female/male ratio: <b>6.52</b>	822	0.4 (0 to 1.5)	1392	2.3 (1.1 to 3.5)	<b>2.83</b>
Dodoma: 50 surgeries (eyes) 38 in females 12 in males female/male ratio: <b>3.16</b>	280	8.6 (4.4 to 12.8)	498	11.9 (7.7 to 16.2)	<b>1.38</b>
Manyoni: 215 surgeries (eyes) 165 in females 50 in males female/male ratio: <b>3.30</b>	1164	2.8 (0.9 to 4.6)	1864	7.3 (5.5 to 9.2)	<b>2.61</b>
Total: 528 surgeries (eyes) 415 in females 113 in males female/male ratio: <b>3.67</b>	3490	2.1 (1.4 to 2.8)	5455	4.7 (3.9 to 5.5)	<b>2.24</b>

Prevalence data from Tanzania are presented with confidence intervals at the district level, calculated using SURVEYMEAN in SAS, accounting for sample design and clustering within neighbourhood and village level strata. Approval of the programmes falls under the aegis of the Tanzanian and Vietnamese ministries of health who provide ethical standards for country initiatives.

#### Role of funding source

The source of funding for the national programmes, The International Trachoma Initiative, had no involvement in this study.

#### RESULTS

In Tanzania, for all four districts the female:male gender ratio of eyes having trichiasis surgery actually exceeded the female:male gender prevalence ratio of eyes with trichiasis in the population (table 1). The data within each district suggest the female:male ratio for surgery is also higher in the younger age group. If anything, there may be factors that impede males seeking surgery. The observed absolute number of surgery cases may appear to be low, but it should be noted that in 1999 the national programme started in six villages within six districts, and has expanded over subsequent years.

**Table 2** Vietnam: gender distribution of trichiasis surgeries reported for the districts and prevalence rate of trichiasis cases in the districts

District	Males		Females		Ratio: female/male
	No examined	% Trichiasis	No examined	% Trichiasis	
Van Chan District: 715 surgeries (people) 470 in females 245 in males female/male ratio: <b>1.92</b>	10 659	3.35	11 985	6.98	<b>2.08</b>
Tu Ky, Thanh Mien: 1874 surgeries 1363 in females 511 in males female/male ratio: <b>2.67</b>	55 100	1.44	57 350	3.39	<b>2.35</b>
Kien Xuong, Quynh Phu: 2426 surgeries 1670 in females 756 in males female/male ratio: <b>2.21</b>	62 854	1.86	80 489	3.20	<b>1.72</b>
Total: 5015 surgeries 3503 in females 1512 in males female/male ratio: <b>2.32</b>	128 613	1.80	149 824	3.57	<b>1.99</b>

In Vietnam, two of the provinces had higher female:male gender ratios among the surgery cases compared to the female:male gender prevalence ratio of all cases (table 2). In Van Chan district, the ratios were more similar, with the female:male ratio of surgical cases slightly lower than the community gender prevalence ratio of trichiasis. In Vietnam, the programme covers the entire district so the absolute number of surgical cases was large, and in general the uptake is relatively high.

## DISCUSSION

Trichiasis is the potentially blinding complication of trachoma that preferentially affects women. Thus, trachoma control programmes have a special need for diligence regarding equity in delivery of trichiasis surgical services. Our study presents the first data to support the equitable use of trichiasis surgical services provided in the trachoma national programmes in Tanzania and Vietnam. Women appear to be surgical cases at the same proportion as they are trichiasis cases in the community.

In assessment of gender equity, there are sources of bias that must be considered, such as the issue of the representativeness of the cases in the community. If men, and men with trichiasis in particular, are less likely to come for examination, then the gender ratio of all cases will be skewed towards a high female ratio; the converse is also true. The data from Tanzania were based on a random sample of villages and neighbourhoods. All people were invited for an ocular examination and 74% attended, somewhat fewer adult males (69%) than adult females (78%). However, the 9% difference is not sufficient to account for the excess risk of trichiasis in females. The gender ratio, 2–3-fold higher in females, is similar to that reported from other population based studies in Tanzania.<sup>16</sup> In Vietnam, village health workers examined the eyes of more than 80% of people, by going to each household. Lists of these cases were submitted to the provincial ophthalmologists for re-examination before the total number of cases were finalised. There is no reason to suspect that the village health workers or trachoma graders were gender biased in their assessment of trichiasis. Furthermore, contribution of any bias from the trichiasis cases in the remaining 20% of the sample is unlikely to skew the results based on 80% of the sample. Thus, the gender ratios of the cases in both settings is a reasonable estimate for the community gender ratio.

The gender ratio of the surgical cases could be affected by bias in ascertainment of all operated cases, or differential loss of information according to gender. In both Tanzania and Vietnam, differential loss of data is unlikely. Whereas records from time periods may be missing, and was reported in some areas of Tanzania, it was random with respect to gender. In Vietnam, the cases for surgery were tracked according to the list from the population, so unless the list were biased (see discussion above, as unlikely) there was no loss of information.

It should be noted that in any programme, data suggesting gender inequity of use of surgical services are not necessarily an indictment of the programme itself. The programme to provide surgical services resides in a community with particular social, economic, political, and cultural traditions. Data suggesting inequity should trigger a review considering these community structures to be certain that features of the provision of services, such as cost, are not a hindrance especially for women. Even provision of surgical services within the village, or free transport to the health centre, with services at no cost to the patient, may not result in uptake.<sup>5–6</sup>

In Tanzania, there was no evidence that women were less likely to be receiving trichiasis surgery, relative to their needs, compared to men. Overall, there appears to be a relative

paucity of men represented in the surgical cases. In part, this may reflect a concerted effort early in the programme in Tanzania to examine and refer women for surgery, as some of the rapid assessment surveys only targeted women for examination of trichiasis. In part, this also seems to reflect a reluctance of adult males in some districts to access offered health care. We observed fewer adult males participating in the azithromycin distribution programmes in Tanzania.<sup>17</sup> Other data from Tanzania suggest that surgical uptake in general is low with only 27% of known cases in one district coming forth over a 7 year follow up period.<sup>5–6</sup> The Gambia also reported, in one research study, that in general surgical uptake is low and women did not appear to access surgery any less frequently compared to males.<sup>4</sup> The trachoma control programme should continue its efforts to reach all trichiasis cases in these communities.

In Vietnam, there is no evidence of gender disparity either. These data are similar to another study in North Vietnam of use of health services, which also found no differences by gender.<sup>18</sup> The coverage in the districts is high, with high rates of surgery reported. The high coverage may in part be the result of a focus on the list obtained by the village health workers, so that those who were not in the original survey would not be easily found by other means. The high coverage can also be attributed to a strong eye network within the provinces, with trichiasis surgery performed regularly at the commune level. The commune health centres are only 1–3 km from the villages they serve.

National trachoma control programmes for these two countries are clearly aware of the gender differences in rates of trichiasis, and their programmes appear to be accessible and usable by women as expected, in light of the community prevalences. Further studies in other countries with national trachoma control programmes are warranted to be certain that trichiasis surgical services are reaching women appropriately.

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