COLUMBIA | VAGELOS COLLEGE OF PHYSICIANS & SURGEONS
PROGRAM FOR EDUCATION IN GLOBAL AND POPULATION HEALTH

Evaluation of the Impact of Foreign Cataract Surgery Teaching Efforts in Addis Ababa, Ethiopia

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Research Question: What is the impact of foreign teaching of phacoemulsification cataract surgery in Ethiopia?

BACKGROUND

Cataracts in Ethiopia are a major cause of preventable blindness and low vision, affecting over 600,000 and 1.2 million people, respectively (1). Manual surgery is the primary cataract treatment in low-income countries (2). Phacoemulsification surgery, the standard of care in developed countries, leads to faster recovery with fewer complications, but cost and inaccessibility are limitations (2-5). The international non-governmental organization (NGO) Vision Care has worked to improve surgical care by teaching an annual Phacoemulsification Training Course (PTC) to Ethiopian surgeons (6).

Vision Care is an international NGO and member of the International Agency for the Prevention of Blindness that aims to prevent blindness (7). Vision Care has headquarters in both the USA and South Korea and has additional branches in several countries including Ethiopia (7). Services provided include overseas “eye camps” that provide treatment and surgery in areas with high prevalence of blindness, distribution of eyeglasses, support of hospitals in developing countries and blindness prevention efforts, and provision of professional ophthalmic training (6).

Since 2012, Vision Care has taught the PTC program annually to Ethiopian surgeons in Addis Ababa (6). In the PTC program, surgical trainees spend approximately 9 months learning phacoemulsification (phaco) cataract surgery via didactics, side by side in the operating room, and in supervised surgeries.

TABLES AND GRAPHS

Demographics of PTC Trainees: Location

Location	Count	Proportion
Addis Ababa	16	0.762
Hawassa	1	0.048
Jimma	3	0.143
Yirgalem	1	0.048
Sum	21	1.000

Demographics of PTC Trainees: Sex

Sex	Count	Proportion
F	9	0.429
M	12	0.571
Sum	21	1.000

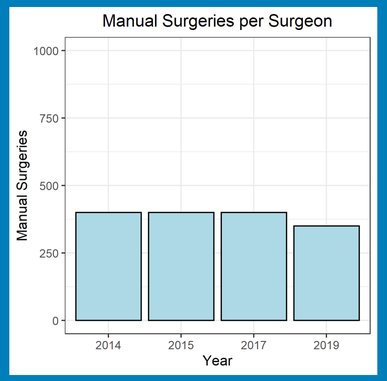
Demographics of All Ophthalmologists: Years in Practice

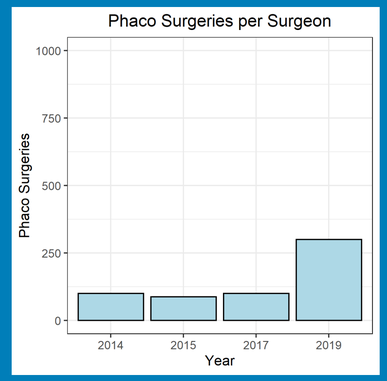
1st Qu.	3rd Qu.	Max.	Mean	Median	Min.	NA's
3	14.25	32	9.03	6	0.667	6

Table 1: Locations of surveyed PTC trainees

Table 2: Sex of surveyed PTC trainees

Table 3: Number of years in practice of all surveyed members of the Ophthalmological Society of Ethiopia. NA signifies no answer.





Graphs 1 and 2: Median number of manual (1) and phacoemulsification (2) surgeries performed by surveyed ophthalmologists separated by year of survey completion. Differences found between years were not statistically significant.

P Values for Difference in Proportion of Cataract Surgery Types Performed per Year

Manual.Surgery	Phaco.Surgery
0.0396	0.0984

Table 4: P values of difference in proportion of ophthalmologists performing manual and phaco surgery in four different years. Fisher exact (manual) and chi square (phaco) statistical tests were used to determine p-values.

METHODS

We are conducting a nonrandomized online survey of Ethiopian ophthalmologists, including PTC participants, and aim to perform follow-up interviews. We developed an online questionnaire with questions including the number of manual and phacoemulsification surgeries performed yearly, years practicing, and resource availability. Descriptive and bivariate analyses were performed on data from questionnaires administered in 2014, 2015, 2017, and 2019.

PRELIMINARY RESULTS

The 21 PTC trainees comprised 15% of practicing Ethiopian ophthalmologists with 16 in Addis Ababa and 9 female. The 138 responses from ophthalmologists surveyed in various years indicated a mean of 9.03 years in practice. Between years, significant differences were found in the proportion of surgeons performing manual (p=0.0396), but not phacoemulsification (p=0.0984), surgery. The median number of annual manual and phacoemulsification surgeries performed did not differ significantly.

DISCUSSION

Preliminary results suggest that manual surgery is more common than phacoemulsification and significant differences in the annual number of surgeries performed were not found. However, data collection for 2021 is ongoing. When full results are analyzed, we hope to assess the impact of the PTC and foreign phacoemulsification training efforts on the field of ophthalmology and identify remaining barriers that should be addressed to improve cataract surgical care in Ethiopia.

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