

# PRIMARY OPEN ANGLE GLAUCOMA IN NEPAL

## Exploring the unknown

AKADEMISK AVHANDLING

Som för avläggande av medicine doktorexamen vid Göteborgs universitet kommer att offentlig försvaras i Aulan, Nordic School of Public Health NHV, Nya Varvet, Fredrik Bloms väg 25, Göteborg

Onsdagen den 10 december 2014 kl 09.00

av

**Suraj Shakya-Vaidya**

Fakultetsopponent: Docent Nawi Ng, Enheten för epidemiologi och global hälsa, Institutionen för folkhälsa och klinisk medicin, Umeå universitet

Avhandlingen baseras på följande delarbeten:

- I **Suraj Shakya-Vaidya**, Umesh Raj Aryal, Madan Upadhyay, Alexandra Krettek. Do non-communicable diseases such as hypertension and diabetes associate with primary open-angle glaucoma? Insights from a case-control study in Nepal  
*Global Health Action 2013;6:22636*
- II **Suraj Shakya-Vaidya**, Umesh Raj Aryal, Andrej M Grjibovski, Alexandra Krettek. Visual status in primary open-angle glaucoma: a hospital-based report from Nepal.  
*Journal of Kathmandu Medical College 2014;3:49-57.*
- III **Suraj Shakya-Vaidya**, Lene Povlsen, Binjwala Shrestha, Andrej M Grjibovski, Alexandra Krettek. Understanding and living with glaucoma and non-communicable diseases like hypertension and diabetes in the Jhaukhel-Duwakot Health Demographic Surveillance Site: a qualitative study from Nepal  
*Global Health Action 2014;7:25358.*



UNIVERSITY OF GOTHENBURG

# PRIMARY OPEN ANGLE GLAUCOMA IN NEPAL

## Exploring the unknown

Suraj Shakya-Vaidya

Department of Internal Medicine and Clinical Nutrition, Institute of Medicine,  
Sahlgrenska Academy at University of Gothenburg

### ABSTRACT

**Background:** Dealing with blindness related to primary open angle glaucoma (POAG) has always been challenging due to late detection as POAG can remain asymptomatic until end stage. Most eye hospitals in Nepal conduct opportunistic screening programs for glaucoma, but no reports confirm whether screening programs achieve their goals in preventing blindness. Also, no report tells us the status of glaucoma awareness among Nepalese population.

**Aims:** This Thesis explored previously uninvestigated facts about POAG that are essential in preventing glaucoma blindness. It aimed to investigate the association of POAG with hypertension and diabetes. It further aimed to investigate the visual damage of POAG patients at the time of first diagnosis. This Thesis also explored knowledge about POAG, hypertension, and diabetes in a peri-urban community.

**Methods:** This Thesis used a mixed method approach that combined both quantitative and qualitative methods. A hospital-based case-control study investigated the association between POAG, hypertension, and diabetes. Simultaneously, we conducted a descriptive study to illustrate the clinical findings and visual damage observed at the time of POAG diagnosis. Our qualitative approach explored the knowledge of glaucoma, hypertension, and diabetes in the community.

**Results:** This Thesis shows an association between POAG, hypertension, and diabetes. It also reveals that very few patients knew they were high-risk for POAG when they visited a hospital. Opportunistic screening detected late-stage POAG with moderate to severe visual damage. People's in-depth knowledge of glaucoma was poor. Gender inequity was persistent in regard to knowledge, attitude, and practice of health in Nepal, and women additionally faced cultural health barriers, depriving them of adequate health care. Nepalese communities need more health awareness programs that emphasize women.

**Conclusion:** Studies presented in this Thesis demonstrate an association between POAG, hypertension, and diabetes. In addition, it shows that the existing glaucoma screening strategy frequently results in late detection of POAG. This Thesis also explored the gap in health literacy regarding glaucoma and gender inequity in health care, indicating a need for tailored community-based health awareness programs.

**Keywords:** Blindness, Primary open angle glaucoma, hypertension, diabetes, health literacy, gender inequity, health barriers.

ISBN: 978-91-628-9173-2 (Printed)

ISBN: 978-91-628-9174-9 (e-pub)

<http://hdl.handle.net/2077/36906>