

GLAUCOMA CARE at NVSEC- ONE YEAR REVIEW

WORLD GLAUCOMA WEEK 10th-
16th March, 2019

Dr Hassan G Hassan

Introduction

Definition;

A group of diseases that have as a common end-point characteristic optic neuropathy determined by both structural changes (Optic disc & NFL) and functional deficit (Visual Field loss)

International Society for Geographical and Epidemiological Ophthalmology.... Amsterdam, The Netherland -1998

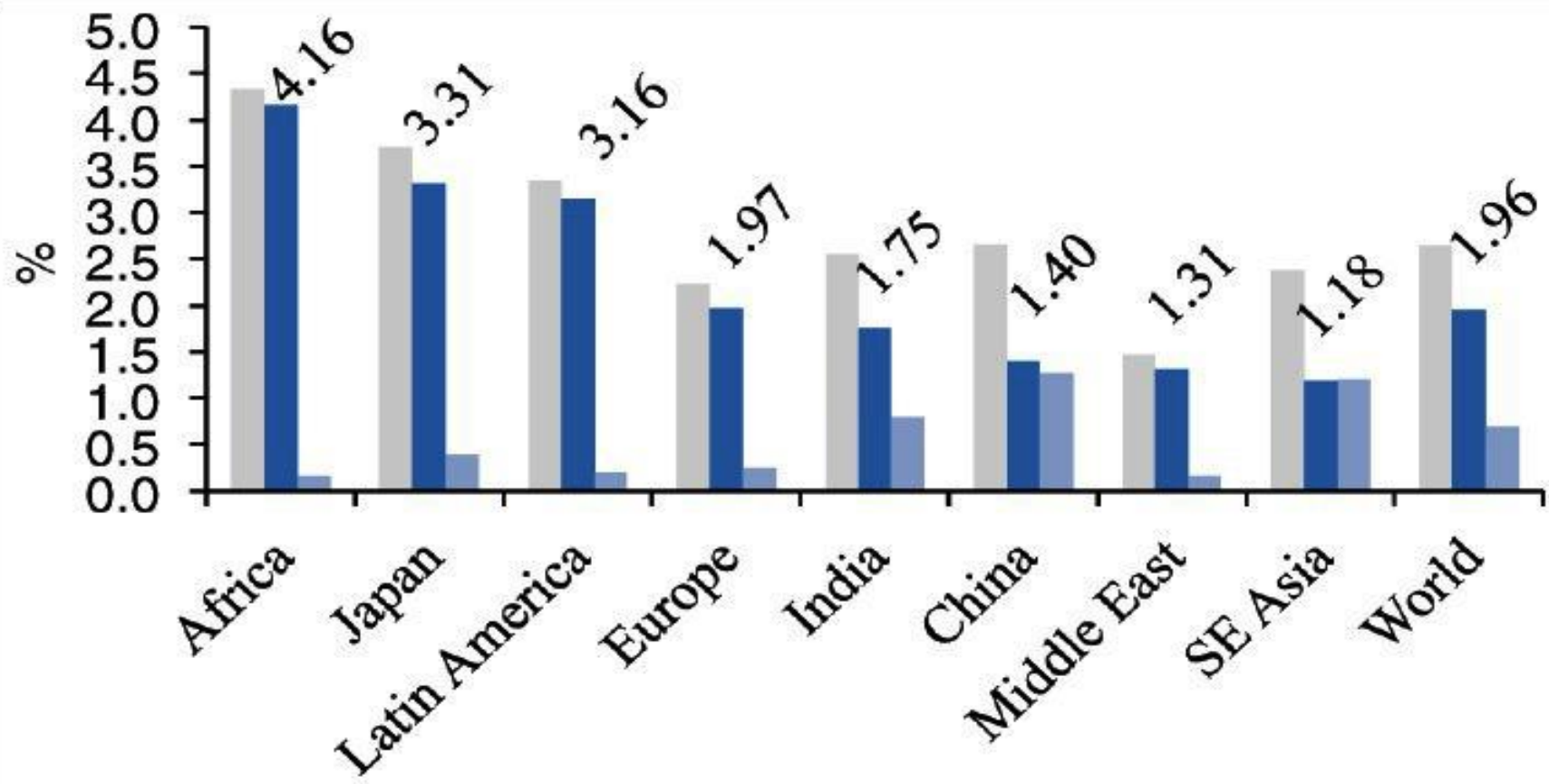
TYPES OF GLAUCOMA

Type	Cause/Effect	Symptoms	Comments
Chronic Open Angle Glaucoma	Gradual blockage of drainage channel Pressure builds slowly	Gradual loss of side vision Affects side vision first	This type of glaucoma progresses very slowly and is a lifelong condition.
Acute Closed Angle Glaucoma	Total blockage of drainage channel Sudden increase in pressure	Nausea Blurred Vision Severe Pain Halos around lights	This condition constitutes a medical emergency, as permanent blindness occurs rapidly without immediate attention.
Secondary Glaucoma	Injury, infection, tumors, drugs, or inflammation cause scar tissue which blocks the drainage channel	Gradual loss of side vision Affects side vision first	This form of glaucoma may progress slowly, as in cases of chronic glaucoma.
Congenital Glaucoma	Fluid drainage system abnormal at birth	Enlarged eyes Cloudy cornea Light sensitivity Excessive tearing	This condition must be treated soon after birth if vision is to be saved.

EPIDEMIOLOGICAL FACTS -1

The global **prevalence of glaucoma** for population aged 40–80 years is 3.54% (95% CrI, 2.09–5.82). ... In 2013, the number of people (aged 40–80 years) with **glaucoma** worldwide was estimated to be 64.3 million, increasing to 76.0 million in 2020 and 111.8 million in 2040

Global Prevalence of Glaucoma and Projection of Glaucoma Burden through 2040 – Yih Chung Tham et al



- Prevalence of glaucoma in aged 40+ years
- Open-Angle Glaucoma
- Angle-Closure Glaucoma

EPIDEMIOLOGICAL FACTS - 2

Epidemiology of Glaucoma in Sub-Saharan Africa: Prevalence, Incidence and Risk Factors

*Middle East Afr J Ophthalmology. 2013 Apr-Jun;
20(2):111-125 Fatima Kyari, et al*

- *Glaucoma in SSA is a public health problem, and predominant open angle glaucoma*
- *It is the second leading cause of blindness, has a high prevalence, early onset and progress more rapidly than in Caucasian*
- *Glaucoma care needs to be given high priority in VISION 2020 programs in Africa*

Glaucoma Patients (1st time presenters) at Eye Clinics in SSA

Country	Year	N	Age (mean years)	% Blind	Other findings
Dar es Salam, Tanzania	2005	298	57	29 % blind (VAc)	CDR \geq 0.8: 70 % . Mean IOP 32 mmHg
Bauchi State, Northern Nigeria	2010	131	53	35 % blind (Vac)	Mean CDR: 0.8. Mean IOP 31.9mmHg
Blantyre, Malawi	2014	60	58.7	15% bilateral blind. <u>43% uni. blindness</u>	CDR \geq 0.8: 79 % . Mean IOP 35.5 mmHg

What is the current status of 1st time presenters diagnosed to have Glaucoma in Tanzania?

A case study of one year clinical review at New Vision Specialist Eye Clinic – Dar es Salaam - Tanzania

Glaucoma Care at NVSEC

Clinical review of glaucoma patients with 1st attendance in the year 2017, and having a one year of follow up.

- Retrospective review of clinical notes of consecutively attended 1st time presenters at NVSEC with Chronic Glaucoma (POAG + CACG)
- Excluded; 2^o OAG, Congenital, Juvenile Glaucoma, PEX Glaucoma, PDG, Glaucoma suspects

Methodology

- Identify all newly attended glaucoma patients/suspects in year 2017
- Clinical notes retrieval and review for recruitment based on eligibility criteria
- Data entry on pre-tested standardized data collection forms
- Data entry and analysis using SPSS ver. 21

Information gathered

1. Patients' demographic data
2. History of Chronic glaucoma prior to the 1st visit at NVSEC
3. Patients clinical parameters at first visit
4. Clinical practices and treatment outcomes after 1 yr of follow up
 - Set target IOP and its utilization
 - Offered main treatment options
 - Surgical uptake
 - IOP outcomes
 - Visual outcomes
 - Adherence to FU reviews

Results -1

- Newly diagnosed Glaucoma patients/suspects (2017)- 135
- Excluded patients = 25
 - Neovascular Glaucoma; 8
 - Juvenile Glaucoma; 3
 - Congenital Glaucoma; 2
 - Secondary Angle Closure; 4
 - Secondary Open Angle; 6
 - Steroid induced; 2
 - Glaucoma suspects; 10
- *Remained 100 patients' clinical notes were eligible for final analysis.*

Results -2

- Patients Demographics

- Sex; Male 58 (58%) , Female 42 (42%)
- Age; Min 28 yrs, Max 89 yrs, Mean 60.2 yrs
- Residency; Within Dar es Salaam 70 (70%)

- Patients' history of Chronic glaucoma prior to the 1st visit at NVSEC

- Known to have Chr. Glaucoma; 74 (74%)
- Duration (yrs); Range 0.08-21yrs Mean 3.6 yrs
- Already on treatment; 70 (70%)
- Treatment received; 39 (56%) Med Rx only, 14 (20%) Surg Rx only, and 17(24%) Surg Rx add Med Rx

Results -3

Patients' history of Chronic glaucoma prior to the 1st visit at NVSEC

- History of blindness in the family; No 43 (43%), Yes 26 (26%), info not available 31 (31%)
- Means of referral
 - Self referral 89 (89%)
 - Referred 11 (11%) Optometrist 6 (6%), AMO-O 3 (3%), and Ophthalmologist 2 (2%)

Results -4

Patients clinical parameters at first visit

- Presenting visual acuities

Normal Vision (NV); 77 (77%)

Visual Impairment (VI); 12(12%)

Severe Visual Impairment (SVI); 2 (2%)

Blindness; 9 (9%)

Unilateral blindness; 45 (45%)

- Presenting IOP; RE: 25 mmHg (6-59) SD 13.13

LE: 25 mmHg (7-68) SD 12.59

- Presenting VCD ratio (mean); RE: 0.87 SD 0.17

LE: 0.87 SD 0.15

Target IOP setting

Disease Severity	Target IOP
Early Glaucoma – Gr I CD ratio; <0.7 IOP >28 mmHg	≤ 20 mmHg (20-21)
Moderate Glaucoma – Gr II CD ratio; 0.7 -0.85 IOP >21 mmHg	≤ 16 mmHg (16-18)
Advance Glaucoma – Gr III CD ratio;> 0.85 IOP >18 mmHg	≤ 12 mmHg (12-14)

Results -5

Clinical practices and treatment outcomes after 1 yr of follow up

- Offered Main Treatment Options
 1. Medical treatment 63 (63%)
 2. Surg Rx 31 (31%)
 3. Reassurance & routine FU 6 (6%)

- Surgical uptake; Main (Rx option) 14/31 (45%)

Overall 17/ 36 (47%)

Results -6

- Final IOP outcome - mmHg (4 readings max).*

Mean IOP; Med Rx: 16.77 (8-54) ; Surg Rx: 15.41
(15-25)

Target IOP reached; Med Rx: 39/66 (59%)
Surg Rx: 7/16 (44%)

- Adherence to FUR; visits made (0-13)
mean 2.31

Results 4 cont..

- **Visual Acuity outcome at 1 year** (same individuals N=66)

VA status at Presentation	VA status after 1 year of FU			
	Blind	SVI	VI	Normal VA
Blind (6)	6	0	0	0
SVI (1) (Severe Visual Impairment)	0	1	0	0
VI (10) (Visual Impairment)	0	0	8	0
Normal VA (49) (Visual Acuity)	0	0	0	51

Conclusion

- **Improvement on Clinical & Non clinical parameters observed on 1st time presenters at NVSEC compared to previous studies in SSA**
 1. IOP control
 2. Visual acuity preservation
 3. Disease burden
- **Challenges**
 1. Lack of early diagnosis & adherence to FUR
 2. Achieving set Target IOPs
 3. No means in place for extended patients care

WAY FORWARD

- Increase networking/ collaboration amongst eye care providers within the country.
- Create modules for which patients will participate more actively in their treatment.
- Routine operational research on glaucoma care across clinics/hospitals for improving clinical care of glaucoma patients in the country and across SSA.