

# **Visual Impairment and Blindness**

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# Definition of Blindness

- Blindness is defined under following headings (**NPCB**):
  - Simple Definition: Inability of a person to count fingers from a distance of 6 meters or 20 feet
  - Technical Definition: Vision 6/60 or less with the best possible spectacle correction
- For International comparison, **WHO** has defined blindness at the level of 3/60 or inability to count fingers at a distance of 3 meters or 10 feet

*The defining criteria for visual impairment and blindness as per WHO (ICD - 10) (4)*

Degree of Impairment	Definition	Visual impairment category
Low Vision	Visual acuity of less than 6 / 18 (Snellen 20 / 70) in worse eye but equal to or better than 3 / 60 (Snellen 20 / 400) in the better eye with best possible correction.	1 & 2
Blindness	Visual acuity of less than 3 / 60 (Snellen 20 / 400) or corresponding visual field loss of less than 10 degrees in the better eye with best possible correction	3, 4 & 5
Visual impairment	Blindness as well as low vision	1 to 5

# Revision of Categories of Visual Impairment

## Presenting distance visual acuity

Category		Worse than	Equal to or better than
Mild or no visual impairment:	0		6/18
Moderate visual impairment:	1	6/18	6/60
Severe visual impairment:	2	6/60	3/60
Blindness:	3	3/60	1/60*
Blindness:	4	1/60*	Light perception
Blindness:	5	No light perception	
	9	Undetermined or unspecified	

\*Or Count fingers (CF) at 1 metre.

Ref: W.H.O.

# Types of blindness

- **Curable blindness:**

- the damage is reversible by prompt management e.g. cataract

- **Preventable blindness:**

- could have been completely prevented by institution of effective preventive or prophylactic measures e.g. xerophthalmia, trachoma, and glaucoma

- **Avoidable blindness:**

- The sum total of preventable or curable blindness.

# Magnitude of Problem in World

- In 2010, 285 million people are visually impaired worldwide: 39 million are blind and 246 million have low vision.
- About 90% of the world's visually impaired live in developing countries.
- The number of people visually impaired from infectious diseases has greatly reduced in the last 20 years.
- 80% of all visual impairment can be avoided or cured.

# Magnitude of Problem in India

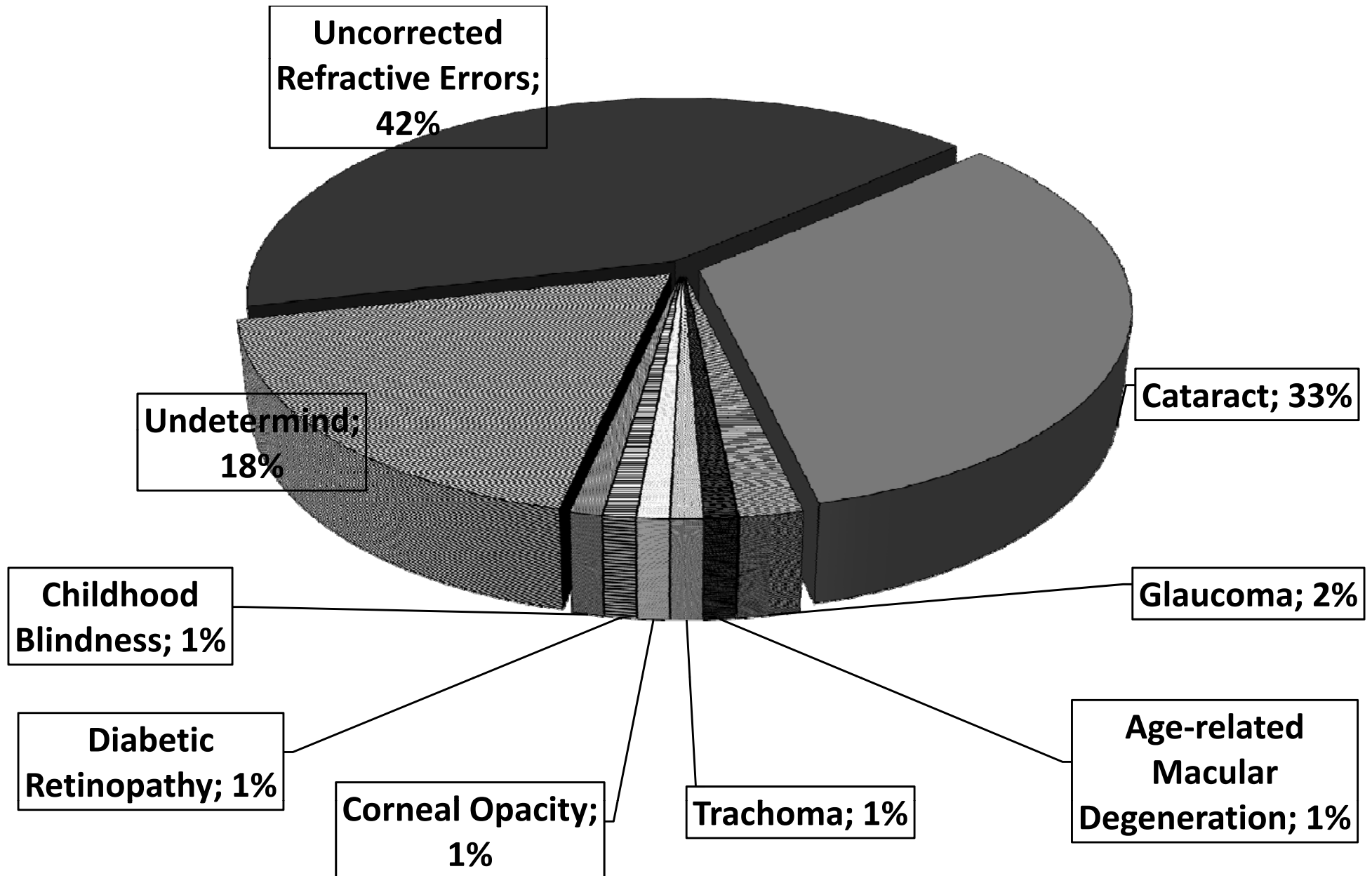
- Estimated prevalence of blindness (2004):  
11.2 per 1000 population
  - 0.1 per 1000 population : 0-14 years
  - 0.6 per 1000 population: 15-49 years
  - 77.3 per 1000 population: 50 years & above
- Female (12.2 per 1000 population) > Male (10.2 per 1000 population)

# Causes of visual impairment

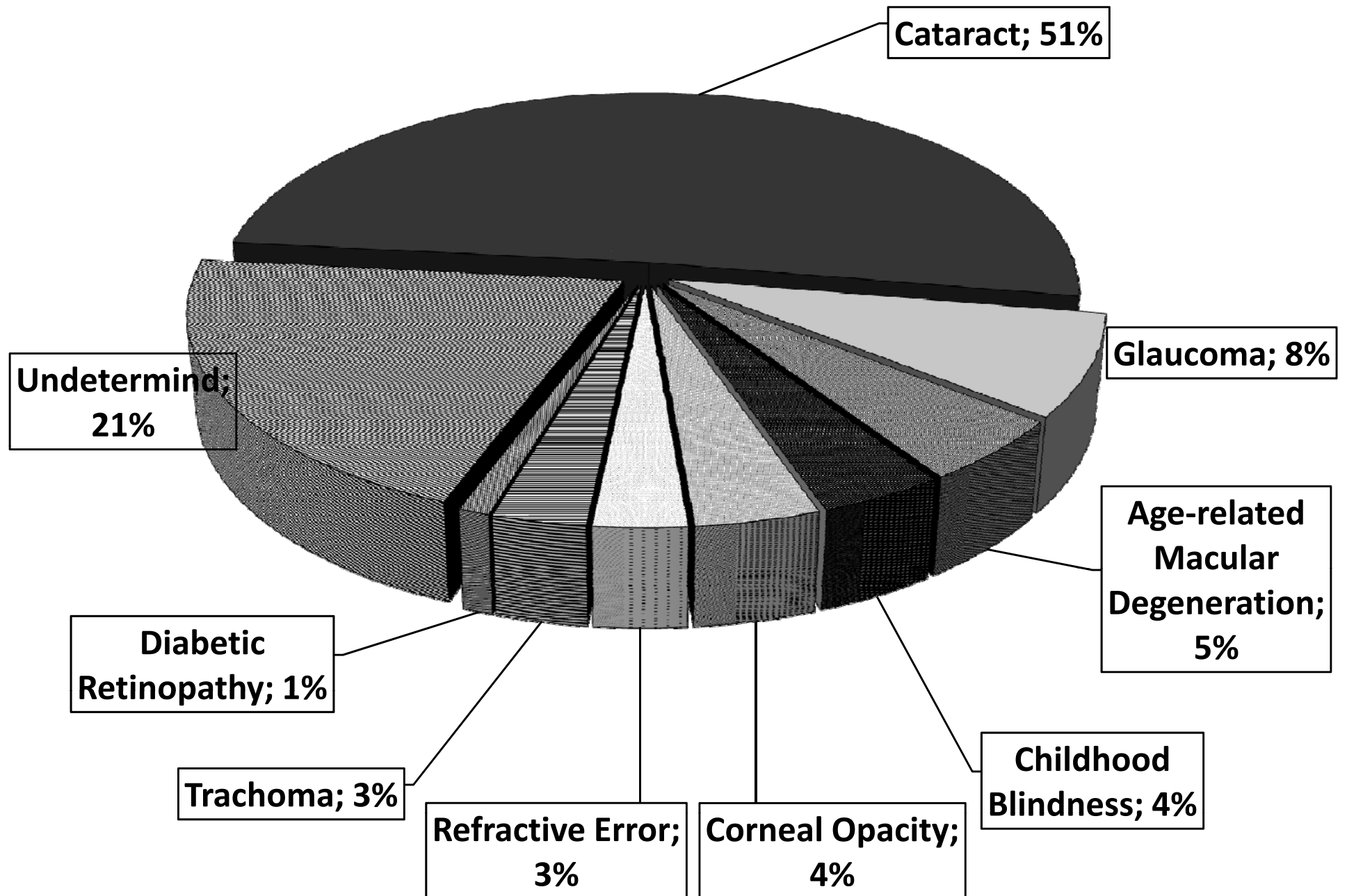
- Globally the major causes of visual impairment are:
  - Uncorrected refractive errors (myopia, hyperopia or astigmatism), 43 %
  - Cataract, 33%
  - Glaucoma, 2%.



# Global Causes of Visual Impairment, 2010



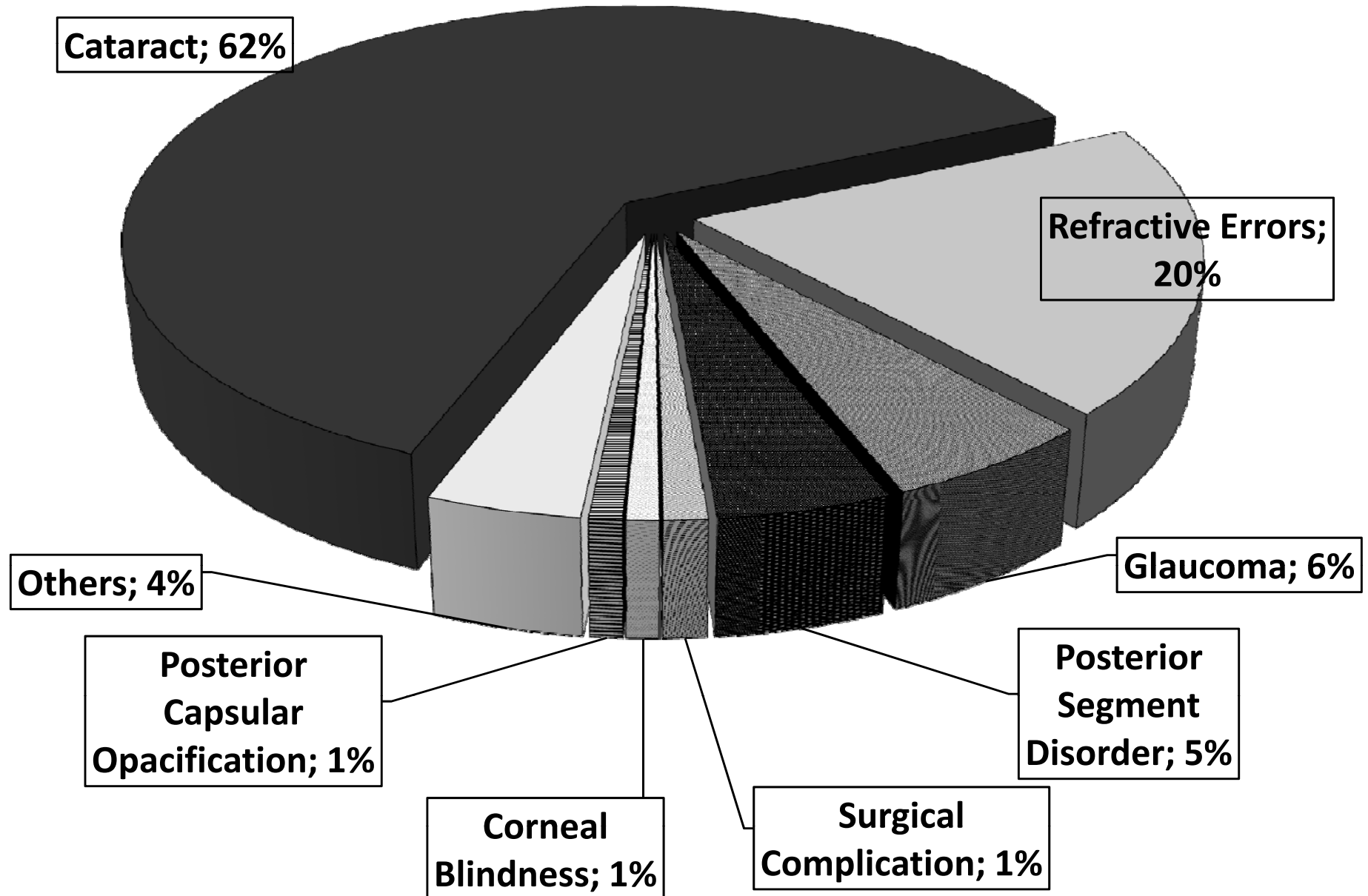
# Global Causes of Blindness, 2010



# ***Main causes of blindness in India***

- Cataract: 62.60%
- Refractive errors: 19.70%
- Glaucoma: 05.80%
- Posterior segment disorder: 04.70%
- Surgical Complication: 01.20%
- Corneal blindness: 00.90%
- Posterior capsular opacification: 00.90%
- Others: 04.19%

# Causes of Blindness in India



# Who is at risk?

- Approximately 90% of visually impaired people live in developing countries.
- **People aged 50 and over**
  - About 65 % of all people who are visually impaired are aged 50 and older, while this age group comprises about 20 % of the world's population.
- **Children below age 15**
  - An estimated 19 million children are visually impaired.
  - Of these, 12 million children are visually impaired due to **refractive errors**, a condition that could be easily diagnosed and corrected.
  - 1.4 million are irreversibly blind for the rest of their lives.

# Epidemiological determinants

- Age
- Sex
- Malnutrition
- Occupation
- Social class
- Social factors

# Changing concepts in Eye Health Care

- Primary eye care
- Epidemiological approach
- Team concept
- Establishments of National Programmes

# Prevention of Blindness

- Initial assessment
- Interventions
- Long term measures
- Evaluation



# Interventions

- Primary eye care
- Secondary care
- Tertiary care
- Specific programmes
  - Trachoma control
  - School eye health services
  - Vitamin A prophylaxis
  - Occupational eye health services

# Global response to prevention of blindness

- Globally, 80% of all visual impairment can be prevented or cured. Areas of progress over the last 20 years include:
  - Governments establishing national programmes to prevent and control visual impairment;
  - Eye care services increasingly integrated into primary and secondary health care systems, with a focus on the provision of services that are available, affordable and high quality;
  - Campaigns to raise awareness, including school-based education; and
  - Stronger international partnerships, with engagement of the private sector and civil society.

**Thanks....**