Health Protection Agency
Ministry of Health, Maldives

Summary of Report

Rapid Assessment of Avoidable Blindness

Maldives - 2016

Technical Support:
International Agency for Prevention of Blindness (IAPB)

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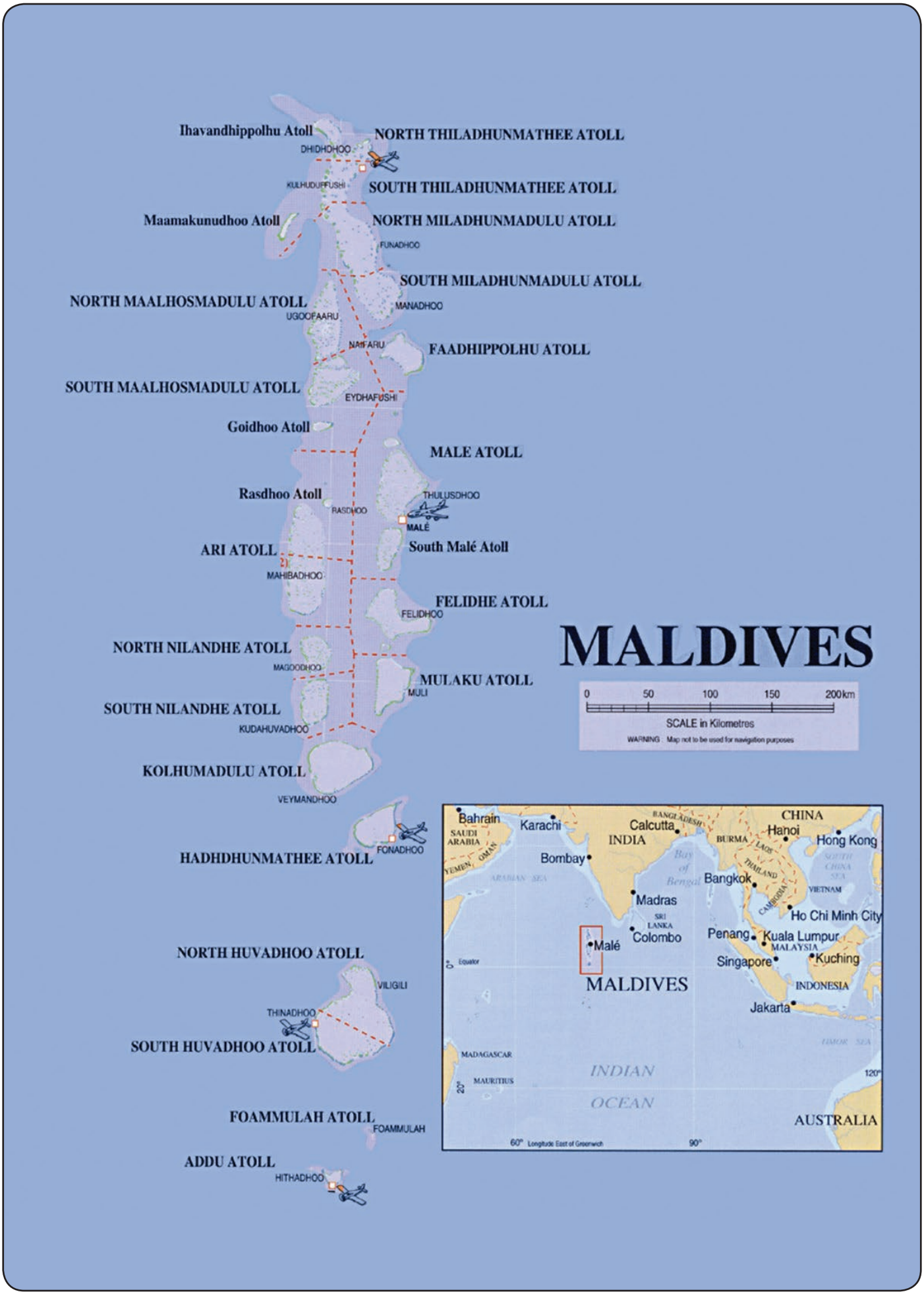
Lions Club International Foundation (LCIF)


Ihavandhippolhu Atoll
DHIDHDHOO
KULHUDUFFUSHI
NORTH THILADHUNMATHEE ATOLL
SOUTH THILADHUNMATHEE ATOLL
Maamakunudhoo Atoll
NORTH MILADHUNMADULU ATOLL
FUNADHOO
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UGOOFAARU
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EYDHAFUSHI
Goidhoo Atoll
MALE ATOLL
Rasdhoo Atoll
RASDHOO
THULUSDHOO
MALÉ
South Malé Atoll
ARI ATOLL
MAHIBADHOO
FELIDHE ATOLL
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NORTH NILANDHE ATOLL
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MULAKU ATOLL
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ADDU ATOLL
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MALDIVES
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SCALE in Kilometres
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Karachi
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Hanoi
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INDIA
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Madras
VIETNAM
Ho Chi Minh City
SRI LANKA
Colombo
Penang
Kuala Lumpur
MALAYSIA
Malé
Singapore
Kuching
Equator
MALDIVES
INDONESIA
Jakarta
MADAGASCAR
INDIAN
OCEAN
MAURITIUS
AUSTRALIA
60° Longitude East of Greenwich
90°
120°

SUMMARY OF FINDINGS

The Rapid Assessment of Avoidable Blindness (RAAB) survey in Maldives is the first ever population based blindness survey in the country. The survey sampling frame included population aged 50 years and older across all the 20 administrative atolls of Maldives. The RAAB is designed to look at the risk group of population age 50 and over, since 80 to 90 % of blindness is known to occur in this age group.

Methodology:

A total of 3,100 study participants aged 50 years and older were enrolled in 62 clusters selected for the study. This was based on the cluster sampling procedure, probability proportionate to size, covering all 20 atolls of the country. Two survey teams, each lead by an ophthalmologist, were mobilised for field work ocular examination and data collection. The data collection was preceded by four days of training and a pilot study. The training was carried out by an International Centre for Eye Health (ICEH)-Certified RAAB trainer and covered all survey team members. The clinical examination team visited study participants in every selected study cluster. This meant door-to-door visits for their enrolment, visual acuity measurement and clinical eye examination by the teams.

Result:

Overall response to this survey was 97.4% for males 95.9% and for females 98.5%. The relatively lesser response in male population could be attributed to their nature of work and travel to other resort islands.

Blindness and Visual Impairment:

The age and gender adjusted prevalence rate of blindness in Maldives was 2.0% (95% CI1.5 – 2.6,) based on the WHO classification of blindness (Presenting visual acuity, PVA, <3/60). The prevalence rate of blindness in females was higher at 2.3% (95% CI, 1.6 – 3.0) compared to males at 1.8% (95% CI 1.0 – 2.7). The overall severe visual impairment (PVA <6/60 – 3/60) was 1.9% (95% CI, 1.4 – 2.4) and visual impairment (PVA<6/18 – 6/60) was 11.4%, (95% CI 10.0 – 12.8). (Figure 1 and 2).

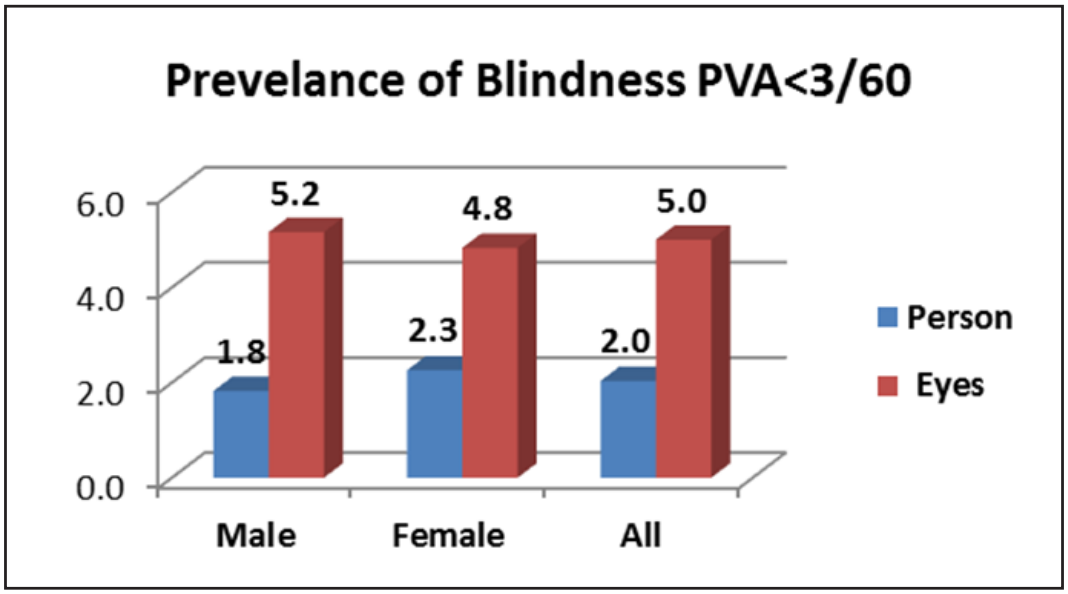

Fig. 1 Prevalence of blindness

Maldives Blindness Statistics

Prevalence > 50 years: 2% . Male: 1.8%; Females: 2.3%

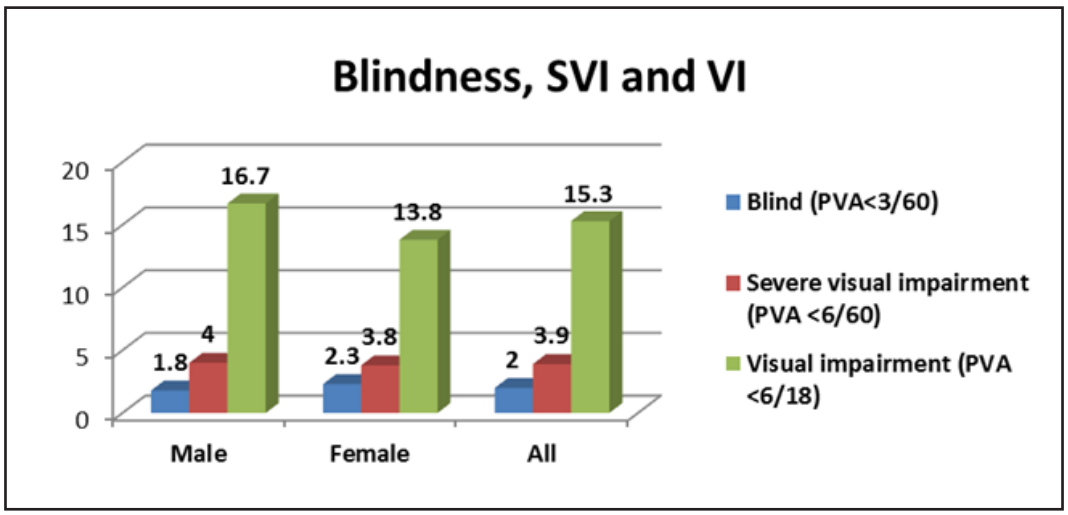

Fig 2. Prevalence of Visual impairment and severe visual impairment

Cause of Blindness and Visual impairment:

The leading cause of blindness was cataract (51.4%), followed by posterior segment anomalies (27.8%). The leading cause of severe visual impairment was cataract (64.6%).

The leading cause of moderate visual impairment was refractive error (50.9%) and cataract was the second leading cause (36.3%). Cataract was the second Corneal scar other than trachoma that was responsible for 5.6% of bilateral blindness in the country. (Figure 3)

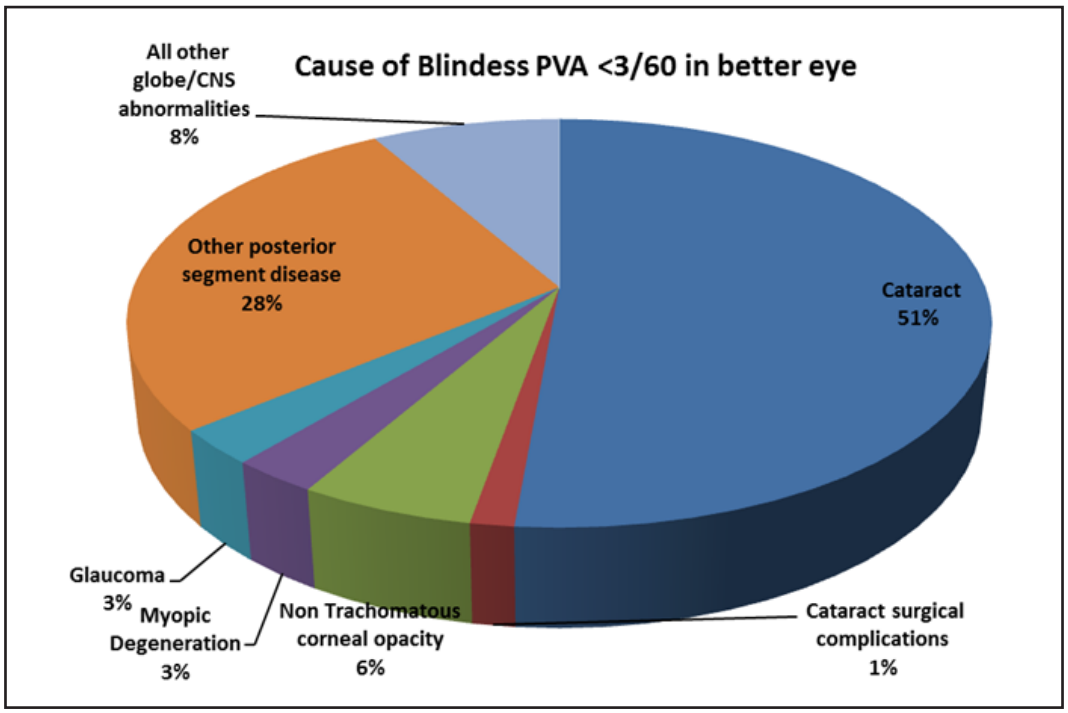

Figure 3. Causes of Blindness (Presenting Vision < 3/60 in better eye)

Maldives Blindness Statistics

Cause of blindness cataract 51.4% posterior segment anomalies 27.8%

Cataract Surgical Coverage:

The in-person cataract surgical coverage at visual acuity cut off <3/60 was 93.5% and at visual cut off <6/18 was 69.1%. Tihs is comparable to many of high income countries. Per eye cataract surgical coverage at visual acuity cut off <3/60 was 86.0% and at visual acuity cut off <6/18 was 61.5%. (Figures 4 and 5)

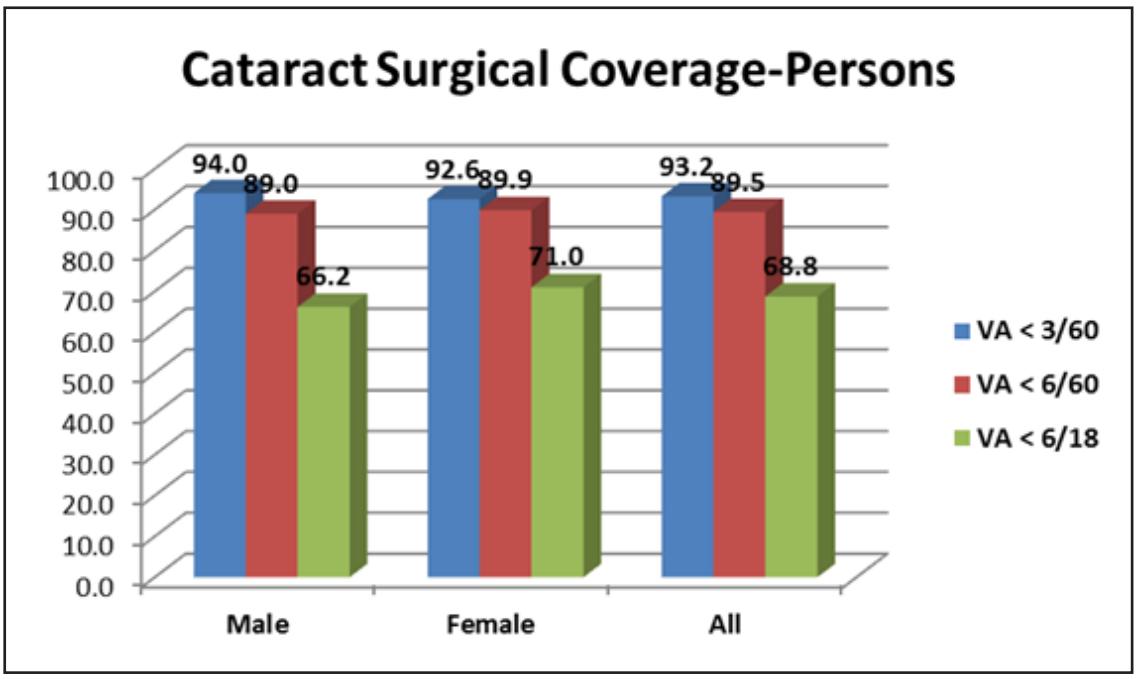

Figure 4

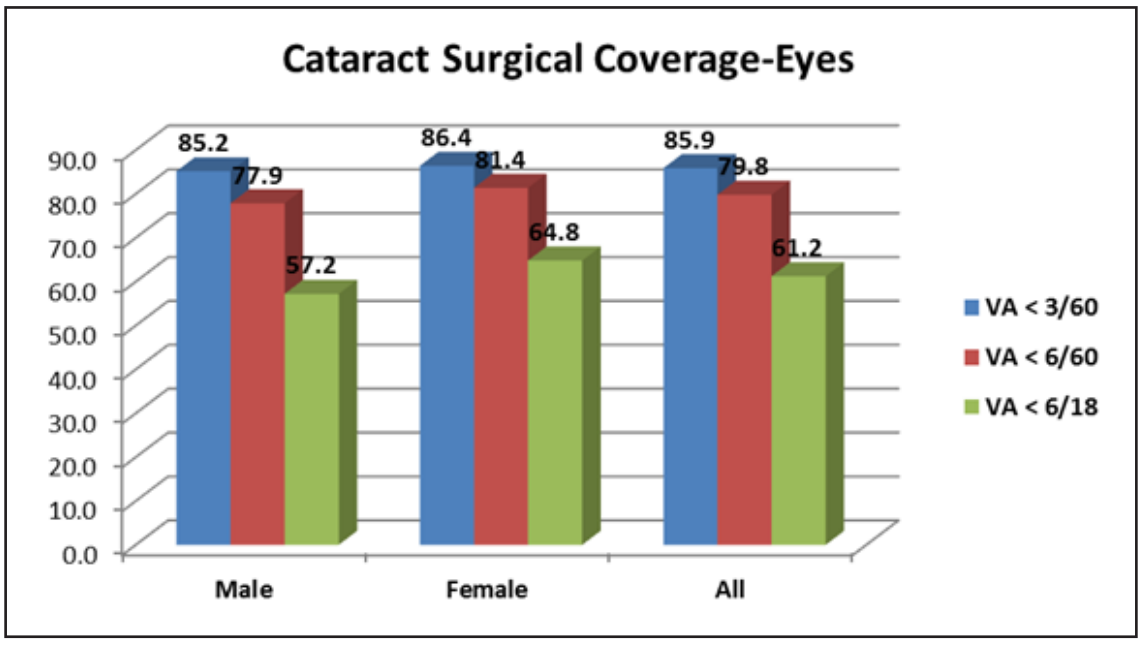

Figure 5

Maldives Blindness Statistics

Cataract surgical coverage visual acuity cut off <3/60 is 93.5% and <6/18 is 69.1%

Visual Outcome of Cataract Surgery:

The WHO definition for visual outcome was used.

WHO definition for Visual Outcome

Good: 6/18 or better

Borderline: Visual acuity <6/18 to 6/60

Poor: Visual acuity <6/60

Based on the above definition, the overall visual outcome of cataract surgery which was 67.9% was good, 17.3% borderline and 14.8% poor based on the presenting visual acuity, and 76.6% good, 10% borderline and 13.4 % poor based on the best corrected visual acuity. In people with intraocular lens (IOL), good visual outcome was 68.9 % and 78.0% based on presenting and best corrected visual acuity. The eyes operated in recent years have better outcomes (75.9%) compared to those operated more than 7 years ago (55.7%). The survey also revealed the fact that almost half (48.1%) of the cataract surgeries were done outside the country, with over one-third (37.8%) in private hospitals and only 10.8% of cataract surgery performed in a government institution.

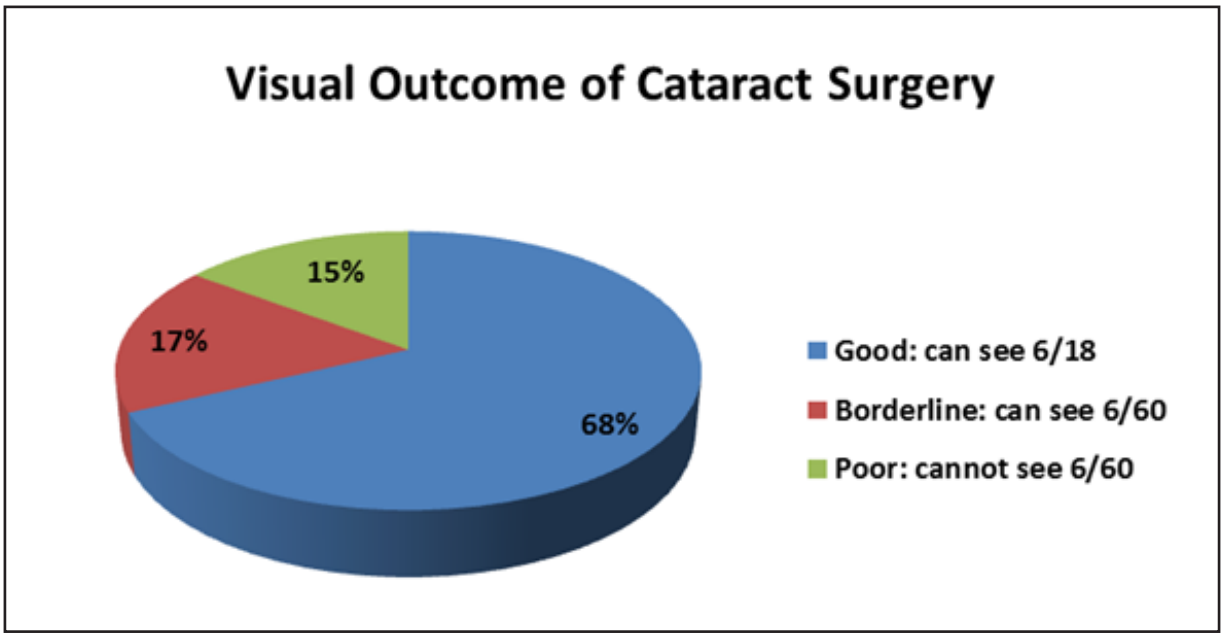

Figure 6

Maldives Blindness Statistics

Visual outcome of Cataract Surgery: Good outcome 67.9%, Borderline 17.3% and Poor outcome 14.8%

Among the poor outcomes of cataract surgery, ocular co-morbidity posterior segment problems: macular degeneration, scar etc. was the main cause at 81%, followed by 12% attributable to surgical complications corneal oedema, decompensation, irregular pupil etc.

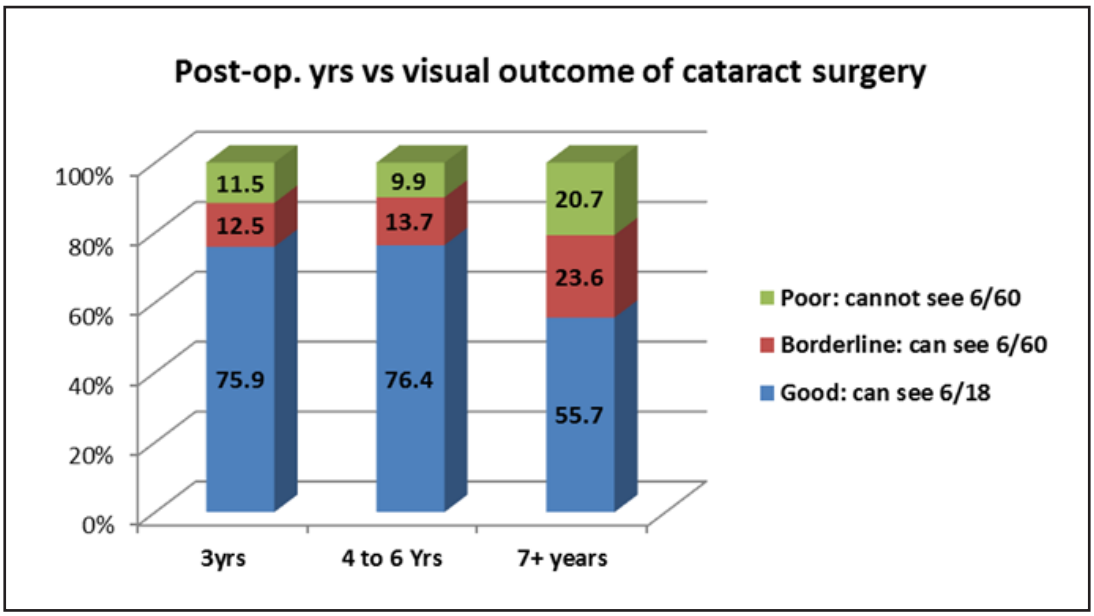

Figure 7

Barriers of cataract surgery:

One third (33.3%) of people having visual acuity <6/60 due to cataract in either eye and not operated stated that the treatment was denied by provider. This could mean they were advised to wait for surgery. Another third (29.7%) "did not feel" then reduction in vision since the other eyewas good". The other reasons were fear for surgery (12.3%) and 'lack of accessibility' and/or'no accompanying person' (17.3%.)

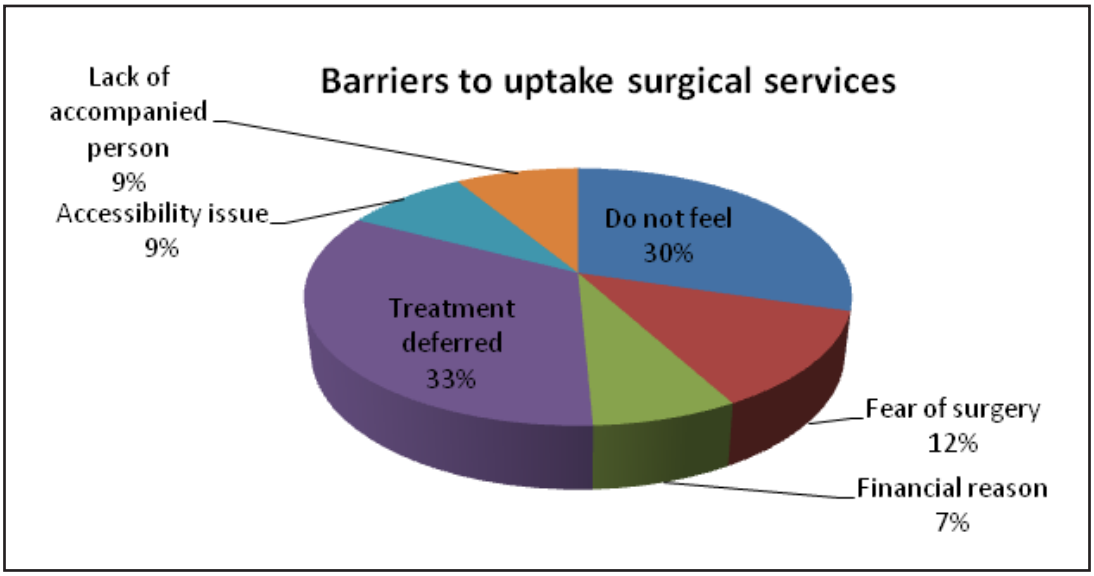

Figure 8

Maldives Blindness Statistics

Prominent barriers to uptake Cataract Surgical Services:
Treatment deferred 33%, Do not feel 30%

Survey Team:

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Enumerators	Ms Hawwa Shama, Health Protection Agency, Ministry of Health, Maldives. Ms Rafa Akram, contract staff.

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