

The Prevalence of Age-related Macular Degeneration in Indian Population: A Systematic Review

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INTRODUCTION

- Age-related macular degeneration (AMD) is responsible for around 8.7% of all blindness worldwide, and is the third most common cause of visual impairment¹
- AMD is the most common cause of blindness in developed countries²
- AMD particularly affects people older than 60 years³
- There is a paucity of data regarding prevalence of AMD in India, though epidemiological studies have been done in smaller geographical areas^{1,4-6}
- A clear understanding of the AMD burden in India is essential to meet future demands for eye health care

Objective

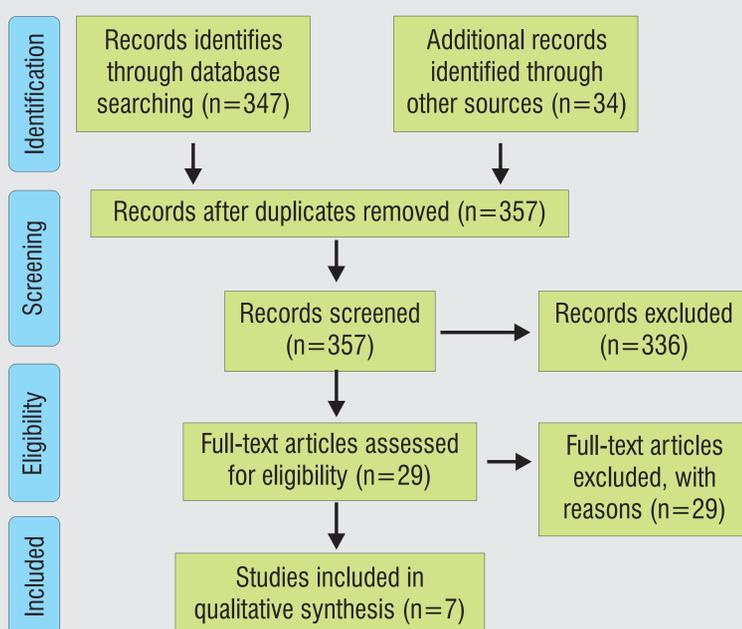
This systematic review of published peer-reviewed studies was performed to evaluate the prevalence of AMD in India

METHODS

- Literature Search: Performed in PubMed, Cochrane and EMBASE
- Observational studies reporting the prevalence of AMD patients in India were included
- Key Words:
 - Age-related macular degeneration
 - Prevalence
 - India
- Restrictions applied:
 - Language of studies: English
 - Subjects: Human adults
 - Time of publication: Since 2004
- Two independent researchers were involved in screening of titles and abstracts, data extraction and synthesis of results

RESULTS

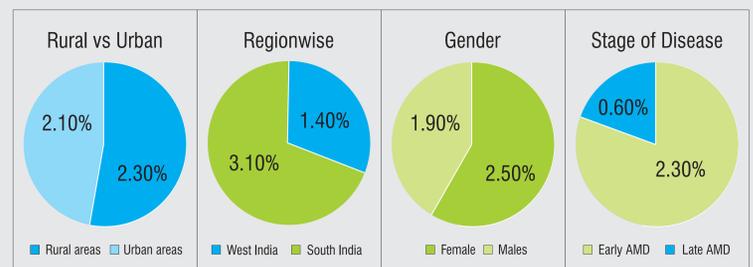
PRISMA Flow Diagram



- Number of studies included for analysis: 7
- Total number of patients: 41,471
- The most important demographic factor affecting the prevalence of AMD in India appears to be the age (> 65 years)
- Overall prevalence of AMD in India: 1.4% to 3.1%
 - Lowest in West India (1.4%)
 - Highest in South India (3.1%)
- Early AMD was more prevalent than late AMD (2.3% vs. 0.6%)

- AMD was more prevalent in:
 - Rural areas than in urban areas (2.3% vs. 2.1%)
 - Females than males (2.5% vs. 1.9%)

Prevalence across different subgroups



DISCUSSION

- The prevalence of AMD is expected to increase due to exponential increase in the general age of the population³
- Treatments for AMD (including anti-angiogenesis therapy) are expensive and not available to all patients in many countries⁷
- Accurate and contemporary estimation of the disease burden and population impact is essential for adequate health care planning and provision in the particular geographical area
- AMD shows significant differences in epidemiology between people belonging to different racial and ethnic background:
 - Early and late-stage AMD is more common in people with European ancestry than in those with African ancestry⁸
 - In patients aged 40-79 years, early signs were more common in Europeans than in Asians³
- Since AMD epidemiology shows geographical variation, it is imperative that global data should be supplemented with local data to take local healthcare decisions
- Older age has been observed to be an independent risk factor for AMD in various studies¹
- Rural and Urban populations show almost similar prevalence of AMD in our study
- Our study shows slight male preponderance of AMD; however the association between gender and AMD has been observed to be inconsistent³
- In the absence of any strong explanation of higher AMD prevalence in South India than West India, larger studies are required to explore further
- Though prevalence of early AMD is considerably high, none of the studies considered reported the usage of photographic grading of AMD, which is the most reliable and preferred system of assessing AMD⁹
 - This data should be interpreted cautiously

CONCLUSIONS

- Accurate estimation of AMD epidemiology is necessary to appropriately plan for the prevention/treatment of this condition which can be expensive
- AMD shows variation in epidemiology with racial, ethnic and geographical variation, and hence precise local data should be utilized for local planning
- Age is an independent risk factor for AMD
- To resolve inconsistencies with respect to region, gender and stage-wise distribution of AMD, further studies are warranted

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