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

**INTRODUCTION**
- Age-related macular degeneration (AMD) is responsible for around 9-7% of all blindness worldwide, and is the third most common cause of visual impairment 1.
- AMD is the most common cause of blindness in developed countries 2.
- AMD particularly affects people older than 60 years 3.
- There is a paucity of data regarding prevalence of AMD in India, though epidemiological studies have been done in smaller geographical areas 4, 5.
- A clear understanding of the AMD burden in India is essential to meet future demands for eye health care.

**METHODS**
- **Objective**: To evaluate the prevalence of AMD in India.
- **Literature Search**: Performed in PubMed, Cochrane and EMBASE.
- **Restrictions applied**: Observational studies reporting the prevalence of AMD patients in India were included.
- **Key Words**: Age-related macular degeneration, Prevalence, India.
- **Language of studies**: English.
- **Time of publication**: Since 2004.
- **Eligibility**: All studies with estimates of the prevalence of AMD in India were included.
- **Exclusion criteria**: Studies that did not provide accurate estimates of the prevalence of AMD were excluded.
- **Screening process**: Two independent researchers were involved in screening of titles and abstracts, data extraction and synthesis of results.

**RESULTS**
- **Screening process**: A total of 357 records were identified through database searching, of which 297 were duplicates and excluded. The full-text articles assessed were 79 (n=79).
- **Prevalence across different subgroups**: Overall prevalence of AMD in India: 1.4% to 3.1%.
- **Age**: Early AMD was more prevalent than late AMD (2.3% vs. 0.6%).
- **Region**: South India had the highest prevalence (3.1%), while West India had the lowest (1.4%).
- **Gender**: Females had a higher prevalence of AMD (2.5%) than males (2.3%).
- **Stage of Disease**: The prevalence of early AMD was 2.3%, while that of late AMD was 0.6%.

**DISCUSSION**
- **The prevalence of AMD is expected to increase due to exponential increase in the general age of the population**.
- **Treatments for AMD**: Treatments for AMD (including anti-angiogenesis therapy) are expensive and not available to all patients in many countries 6.
- **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 those with African ancestry 7.
- **In patients aged 40-79 years, early signs were more common in Europeans than in Asians 8**.
- **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 studies 9**.
- **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 inconsistent**.
- **In the absence of any strong explanation of higher AMD prevalence in South India than West India, larger studies are required to explore further geographical variation, and hence precise local data should be utilized for local planning**.
- **Though prevalence of early AMD is considerably high, none of the studies considered the usage of photographic grading of AMD, which is the most reliable and preferred system of assessing AMD**.
- **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**.

**REFERENCES**
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