

INPLASY202530017
doi: 10.37766/inplasy2025.3.0017
Received: 5 March 2025
Published: 5 March 2025

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ADMINISTRATIVE INFORMATION

Support - IMU University.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202530017

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 March 2025 and was last updated on 5 March 2025.

INTRODUCTION

Review question / Objective Are there ethnic differences in the prevalence of myopia in Malaysian children and adolescents?

Rationale This study aims to document the prevalence of myopia and its associated socio-demographic factors among Malaysian children and adolescents. This data can assist future control programme for this health problem in Malaysia.

Condition being studied Myopia, defined as: refractive error with a spherical equivalent (SE) of at least -0.50 D.

METHODS

Search strategy We plan to search bibliographic databases for Malaysian prevalence studies of myopia among children and adolescent aged 0 to 18 years. The reason for choosing this age group

because myopia often begins between ages 6-12 and progresses rapidly until the late teenage years, making this a critical period for monitoring prevalence. Bibliographic search using combinations of these terms: Adolescent, Child, Malaysia, Myopia, Prevalence. All relevant publications up to 31 December 2024 will be included.

Participant or population Children and adolescents in Malaysia.

Intervention None.

Comparator None.

Study designs to be included Cross-sectional studies.

Eligibility criteria (a) Study participants are children or adolescents; (b) Studies conducted in Malaysia; (c) visual acuity measured using logMAR chart or Snellen chart or equivalent Has prevalence data on myopia.

Information sources An extensive literature search will be carried out on two electronic databases (PubMed, Scopus), and supplemented by a Google Scholar search.

Main outcome(s) Myopia.

Additional outcome(s) None.

Data management References retrieved will be processed using the citation manager Endnote 20. Relevant data (number of participants with and without myopia, socio-demographic variables) in the included studies will be extracted by a pair of investigators independently, to minimize potential bias and error as well as to resolve any disagreements.

Quality assessment / Risk of bias analysis The studies identified will then be assessed for methodological validity using JBI critical appraisal checklist for prevalence studies.

Strategy of data synthesis Meta-analysis will be performed using MedCalc Statistical Software for proportion. MedCalc uses a Freeman-Tukey transformation to calculate the weighted summary proportion under the fixed and random effects model.

Subgroup analysis (a) Gender; (b) Ethnic groups; (c) Rural or urban population.

Sensitivity analysis None.

Language restriction None.

Country(ies) involved Malaysia.

Other relevant information This systematic review will be prepared following PRISMA guidelines. Keywords: Adolescent; Child; Ethnic Groups; Malaysia; Meta-Analysis; Myopia; Sex Factors.

Keywords Adolescent; Child; Malaysia; Meta-Analysis; Myopia; Prevalence; Sex Factors.

Dissemination plans Publication of manuscript in a journal.

Contributions of each author

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