

School Screening for Adolescent Idiopathic Scoliosis: A Systematic Review of Correlative Factors and Positive Detection Rates

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ADMINISTRATIVE INFORMATION

Support - Construction of academic school of traditional Chinese Medicine in Qilu medical School (37000021P28000210056U) .

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

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202470061

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 July 2024 and was last updated on 15 July 2024.

INTRODUCTION

Review question / Objective To identify the existing assessment methods used to screening the adolescents with idiopathic scoliosis and to evaluate the predictive factor of the adolescents with idiopathic scoliosis.

Condition being studied Scoliosis is the deviation in the normal vertical spine. Adolescent idiopathic scoliosis (AIS) is an unexplained pathological deformity of the spine characterized by a coronal curvature of more than 10°, with axial rotation of the apex and sometimes with sagittal malalignment. Early screening for scoliosis has important clinical significance, and many countries and regions have adopted this examination as a routine health service item. There is controversy as to whether there are real anthropometric alterations in patients with AIS. The incidence of scoliosis varies greatly, which may be related to different screening methods and different relevant factors in different regions.

METHODS

Participant or population Studies involving adolescents (ages 10-18) undergoing scoliosis screening in primary and secondary schools.

Intervention Studies evaluating any screening methods, including physical exams, imaging techniques, and emerging technologies.

Comparator Studies evaluating any screening methods, including physical exams, imaging techniques, and emerging technologies.

Study designs to be included Studies evaluating any screening methods, including physical exams, imaging techniques, and emerging technologies.

Eligibility criteria Exclusion Criteria: Studies focusing on scoliosis types other than idiopathic (e.g., congenital, neuromuscular). Studies involving non-school-based screening settings. Studies

without explicit data on correlative factors or positive detection rate. Non-peer-reviewed articles, editorials, commentaries, and case reports.

Information sources PubMed, Web of Science, Science Direct, Scopus, PEDro (the Physiotherapy Evidence Database).

Main outcome(s) Studies reporting on correlative factors (e.g., demographic, genetic, environmental factors) and positive detection rates.

Quality assessment / Risk of bias analysis Review of literature quality using Cochrane's systematic review tool. As this was a review of published literature, ethics committee approval and patient consent were not required. We will update our protocol for any changes in the entire research process if needed.

Strategy of data synthesis Key information was extracted from the included literature, including study design, sample size, screening methods, positive detection rate, and related influencing factors.

Subgroup analysis Subgroup analysis included analysis of different ages, different genders, and different initial Cobb Angles.

Sensitivity analysis Different screening and different factors in this study will be identified by sensitivity analysis.

Country(ies) involved Malaysia; China.

Keywords Screening ,Adolescent idiopathic scoliosis, Factor, Cobb angle.

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