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Validated Tools Used to Assess Musculoskeletal Inguries in competitive rhythmic gymnasts: A systematic Review

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ADMINISTRATIVE INFORMATION

Support - The author(s) received no financial support for the research.

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

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 7 March 2025 and was last updated on 7 March 2025.

INTRODUCTION

Review question / Objective What are the validated assessment tools for rhythmic gymnastics sports injuries? What is their quality? Do they need to be improved?

Condition being studied Rhythmic gymnastics is physically demanding because of its difficult and aesthetic characteristics, and athletes are highly susceptible to a variety of acute and chronic sports injuries caused by a large number of soft openings, strength, endurance and apparatus exercises. In order to effectively treat these injuries, standardized and reliable assessment tools are needed. Therefore, the aim of this study was to identify studies using validated tools to assess musculoskeletal injuries in rhythmic gymnasts, focusing on describing the content and quality of measurements of the tools used, with the aim of informing the effective selection of tools to provide sport injury assessment in rhythmic gymnasts.

METHODS

Search strategy We search for studies in Pubmed ,Web of science,Cochrane Library,Embase, China National Knowledge Infrastructure,China Biomedical Literature Database, and Wan Fang Data Knowledge Service Platform.The search covered articles published from inception until March 1,2025 and was screened by two independent reviewers.

Participant or population Rhythmic gymnasts in all levels.

Intervention Inapplicable.

Comparator Inapplicable.

Study designs to be included Articles were included if they:(a) assessed musculoskeletal injuries in rhythmic gymnastics using a validated assessment tool. (b) All participants were artistic gymnasts, including elite, subelite, and club levels

(c) Articles were written in English or Chinese without restriction on publication year.

Eligibility criteria Articles were excluded if they were: (a) Books, conferences, abstracts, review articles, and case study designs. (b) Literature is descriptive such as reviews. If complete articles were not available, the corresponding authors were contacted.

Information sources We will searchPubmed ,Web of science,Cochrane Library,Embase, China National Knowledge Infrastructure,China Biomedical Literature Database, and Wan Fang Data Knowledge Service Platform.If complete articles were not available, the corresponding authors were contacted.

Main outcome(s) Sample Characteristics, Description of the Identified Tools, Methodological Quality Assessment and Psychometric properties.

Additional outcome(s) None.

Quality assessment / Risk of bias analysis Methodological quality was assessed with an adapted checklist14 proposed by Bates and Alexander with a maximum score of 18 points. Scores were categorized based on the percentage score classification method by Hootman et al.

Strategy of data synthesis Quantitative consolidation.

Subgroup analysis Inapplicable.

Sensitivity analysis Inapplicable.

Country(ies) involved China.

Keywords injury surveillance; rhythmic gymnasts; assessment tool; review.

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