PEER-REVIEW REPORT

Name of journal: *World Journal of Orthopedics*

Manuscript NO: 80846

Title: Identifying sex-specific injury predictors as a key factor in maintaining optimal physical activity levels

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03372482

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Academic Research, Assistant Professor, Associate Professor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: Russia

Manuscript submission date: 2022-10-17

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-10-31 07:28

Reviewer performed review: 2022-10-31 07:36

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

Peer-reviewer statements	Peer-Review: [ ] Anonymous [Y] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Optimal physical activity reduces cardiovascular, respiratory, and endocrine system diseases and, as a result, improves the quality and duration of life. The increased rates of recurrent musculoskeletal injuries occurring during habitual physical activity suggest the need for an individualized approach to the design of an optimal physical activity program. An important risk factor for this kind of reinjury is the initial connective tissue pathology. The variety of clinical dysplastic manifestations and their differences between sexes significantly complicate the timely diagnosis of this comorbidity. AIM:To establish pathognomonic sex-specific dysplasia phenotypes that indicate a particular sensitivity to physical exertion. The study, carried out at Sechenov University by STROBE guidelines, involved 117 participants with recurrent musculoskeletal injuries that occurred during usual training. There were 67 women (57.26%) and 50 men (42.74%), which made it possible to compare the identified signs between sexes. A validated questionnaire was used to screen the connective tissue state of the participants. Statistical analysis, including calculating the Fisher criteria, was conducted using RStudio. The differences were considered to be significant when p was less than 0.05. The study was approved by the Ethics Committee under protocol № 08-19 on 05.06.2019. RESULTS:Ranking the most common revealed dysplasia signs depending on their clinical significance made it possible to establish pathognomonic sex-specific phenotypes, indicating a particular susceptibility to injuries. Individualized programs of optimal physical activity are necessary for men with chest deformities, flat-valgus feet, dolichostenomelia, arachnodactyly, hemorrhoids, abdominal muscle diastasis, and recurrent hernias. In women, a special sensitivity to physical exertion was associated with a combination of

such signs as an asthenic body, joint hypermobility, overly soft auricles, thin hyperelastic skin, atrophic striae, telangiectasias, and varicose veins. Of particular importance are universal signs such as gothic palate, scoliosis, kyphosis, leg deformities, temporomandibular joint crunching, and moderate to high myopia.CONCLUSION: The connective tissue condition should be considered when designing optimal physical activity programs. Identifying the established sex-specific dysplasia phenotypes will allow timely optimization of training loads and prescription of therapeutic measures aimed at connective tissue strengthening that will reduce injury risk during physical activity and improve public health. In General: it's a good paper and the subject of the manuscript is applicable and useful.   Title: the title properly explains the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, the language used in the abstract is easy to read and understand, and there are no suggestions for improvement. Introduction: authors do provide adequate background on the topic and reason for this article and describe what the authors hoped to achieve. Results: the results are presented clearly, the authors provide accurate research results, and there is sufficient evidence for each result. Conclusion: in general: Good and the research provides sample data for the authors to make their conclusion. Grammar: Need Some revision. (Check The Paper Comments).   Please provide and edit the following information in the Paper 1. Some references without DOI 2. Writing references according to the terms of the journal (attached file). 3. Reduce the abstract to less than 250 words. 4. The result and discussion must be in one paragraph. Finally, this was an attractive article. In its current state, it adds much new insightful information to the field. Therefore, I accept that paper to be published in your journal.

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No

Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

This is a good study with a well-written paper. However, the Methods part needs much more details. Please elaborate on the sample size calculation. Please update the references to 2023. Please elaborate on study limitations.

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[Y] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Very well written and formatted