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Evaluation of selected functional parameters in the elderly population

Presented by Klára Novotová

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Introduction

- world population ages at a fast rate
- 2019: 1 billion people older than 60 years of age
- 2050: 2.1 billion people older than 60 years of age (WHO)
- crucial to respond to the challenge
- development of preventive exercise programs
- maintaining health to the highest age possible

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Methodology

- 88 participants
- 60 - 80 years of age
- both men / women
- non-smokers (at least for the last 6 months)
- without any serious cardiological / respiratory condition
- Charlson Comorbidity Index $\leqslant 3$
- willingness to participate and provide written consent

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Methodology II.

- randomly assigned to 1 of 4 groups:

1. walking group
2. walking + manual therapy group
3. walking + resistance exercise training group
4. control group

- groups 1-3: 2x/w, 40-60' under supervision

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Methodology III.

outcome measures:

FEV1, FVC (spirometry)
acromion wall / bed distance
6-minute walk test (6MWT)
sit-to-stand test
algometry (musculus trapezius)
questionnaires (sarcopenia, frailty, quality of life...)

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Statistical analysis

- currently in progress
- using R 4.4.1 software
- Shapiro-Wilk test
- repeated measures ANOVA
- Bonferroni correction
- clinical significance (effect size: d)

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Expected outcomes

- studies with healthy seniors still scarce
- research has shown beneficial effect of each intervention separately on physical health in adults
- we aimed to investigate combination of these interventions for potentially increased efficiency
- walking + resistance training
  walking + manual therapy
  will be more efficient that walking alone

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Searching for available literature I.

- very important skill for every student
- my experience (systematic review, 2022)
- PRISMA statement
- PICOS framework to specify the research question

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Searching for available literature II.

- keywords / P elderly OR seniors OR aged OR older adults
  I walking OR aerobic training
  C NA (“control group” OR “placebo”)
  O spirometry OR FVC OR FEV1 OR lung function
  S randomized controlled trial OR RCT

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Searching for available literature III.

- choosing an appropriate database (Web of Science, PubMed, SCOPUS, EBSCO Essentials, Google Scholar)
- language / year of publication
- flow diagram

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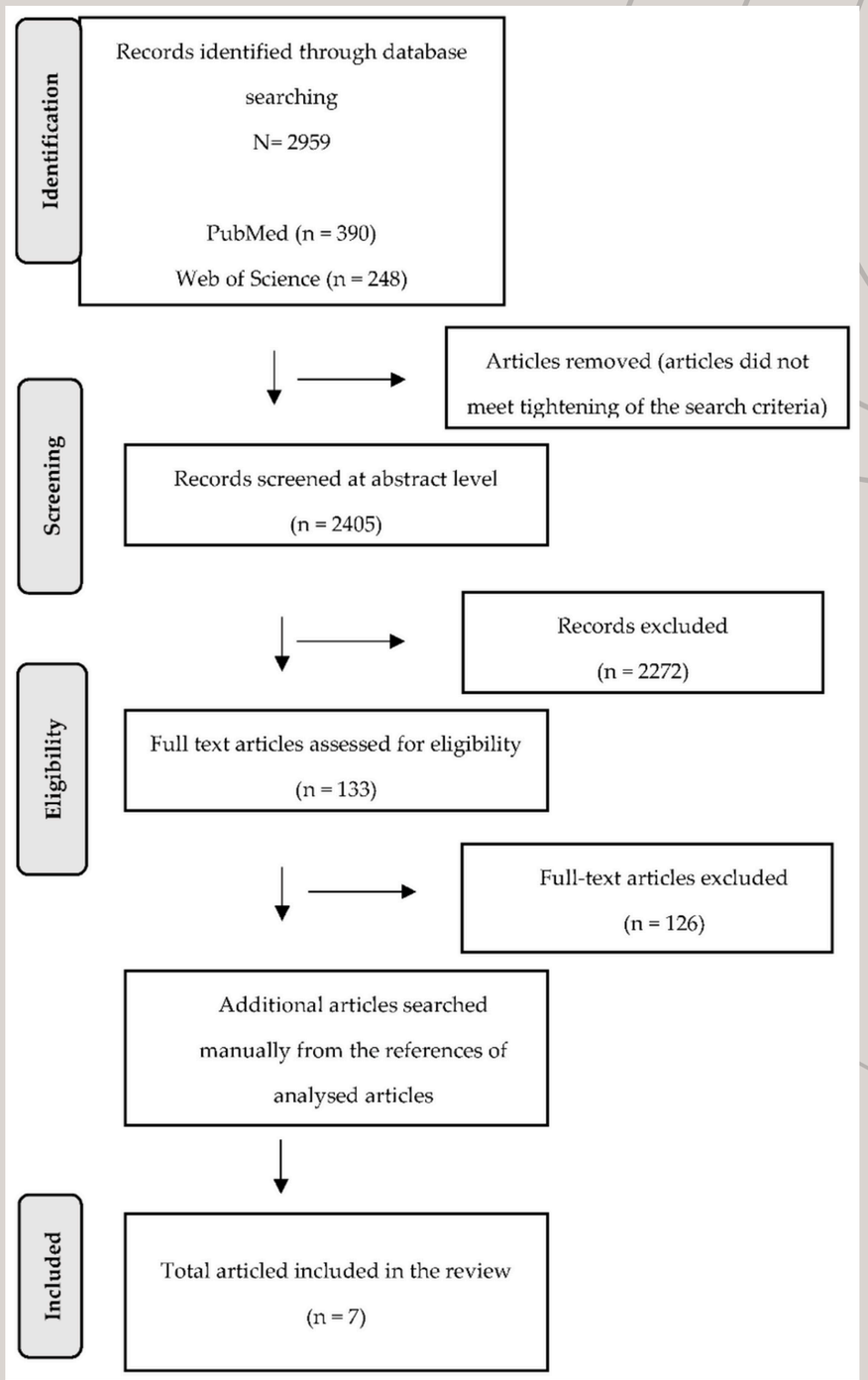
Searching for available literature IV.



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Searching for available literature V.

- critical thinking
- qualitative assessment of the studies
- risk of bias
- Cochrane Risk of Bias Tool (RoB)
- randomization, dropout, selected results, missing data

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Thank you for your attention

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