Exercise vs Calcium Intake
The Best Strategy to Reduce Hip Fracture Risk

Background: Hip fractures are a growing problem in Canada and account for approximately 25% of all falls in older people. Exercise and calcium are recommended to contribute to avoiding decreased bone mass, reducing the risk of hip fractures. To summarize relevant literature and critically assess the evidence to determine the best preventive strategy to reduce hip fracture risk by assessing its relationship with exercise and calcium intake.

Methods: A literature review of studies published between 1988 to 2015 was conducted using Medline and Cochrane Reviews. Keywords included “Risk of Hip Fractures” AND “Exercise” OR “Physical Activity,” “Calcium”, “Prevention” AND “Intervention.” Risk of Hip Fractures. Exempted studies were those focused on postmenopausal osteoporosis and fall risk, or lacked relative risk measurements; the remaining were selected.

Results: The majority of studies indicated negative associations between exercise and hip fractures, and positive associations between calcium intake and reduced hip fracture risk.

Conclusion: Overall, it appears that calcium supplementation is a better preventive strategy than exercise to reduce hip fracture risk. However, the quality of research is quite poor, with many studies suffering from significant methodological issues.

ABSTRACT

Lack of Risk Measurements
Only tested for Calcium OR Exercise
and intake

Exercise and calcium are recommended to reduce the risk of hip fractures. To summarize relevant literature and critically assess the evidence to determine the best preventive strategy to reduce hip fracture risk by assessing its relationship with exercise and calcium intake.

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Which is the best strategy to reduce the risk of hip fractures among older adults 50 years and older, calcium intake or exercise?

RESULTS

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<td>Calcium with Vitamin D vs Calcium alone (95% CI)</td>
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<td>Conclusion</td>
<td>Calcium was used as a control in most studies but also with Vitamin D supplementation. No significant difference was found between the two groups.</td>
<td>Calcium was not indicated as a protective factor against hip fracture.</td>
<td>Physical exercise had the strongest association with hip fracture risk, but women who exercised for at least 1 hour a day had a significant reduction in the risk of hip fracture compared to those who exercised for less than 0.5 hour a day.</td>
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<td>Meta-Analysis</td>
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DISCUSSION

Overall, the studies reviewed indicate a greater association between exercise and hip fracture risk than calcium intake. The studies that showed a significant association between exercise and hip fracture risk were those that included a mixed population of men and women, whereas studies that showed a significant association between calcium intake and hip fracture risk were those that included a mixed population of men and women. The studies that included a mixed population of men and women showed a significant association between exercise and hip fracture risk, whereas studies that included a mixed population of men and women showed a significant association between calcium intake and hip fracture risk.

Future Research Directions

Analyzing the association between both calcium and exercise and the risk of hip fracture is an important area for future research. Future studies should focus on understanding the complex interplay of various factors, including lifestyle choices, diet, and other risk factors, and how they interact to influence the risk of hip fracture. This will help in identifying more effective strategies for preventing hip fractures, particularly for those who are at high risk due to various medical conditions.

CONCLUSIONS

Overall, our findings indicate a stronger relationship between exercise and reduced hip fracture risk than calcium intake. Calcium supplementation is a better preventive strategy than exercise to reduce hip fracture risk. However, the quality of research is quite poor, with many studies suffering from significant methodological issues. Further studies are needed to determine the best preventive strategy to reduce hip fracture risk.