



Preoperative Vitamin D Repletion Strategies in Bariatric-Metabolic Surgery: A Systematic Review

Presenter

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No conflict of interests

Research team:

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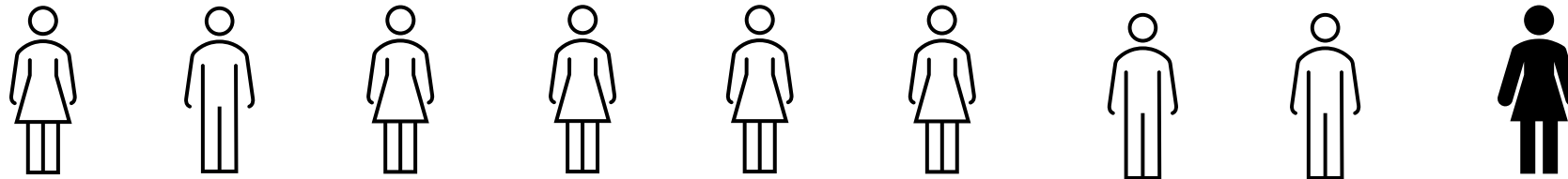
Dr Megan Crichton

Dr Lillian Craggs-Dino

Dr Flavia Fayet-Moore

Dr Skye Marshall

Vitamin D deficiency: 9 out of 10¹



“Correct identified deficiencies before the surgery.”²

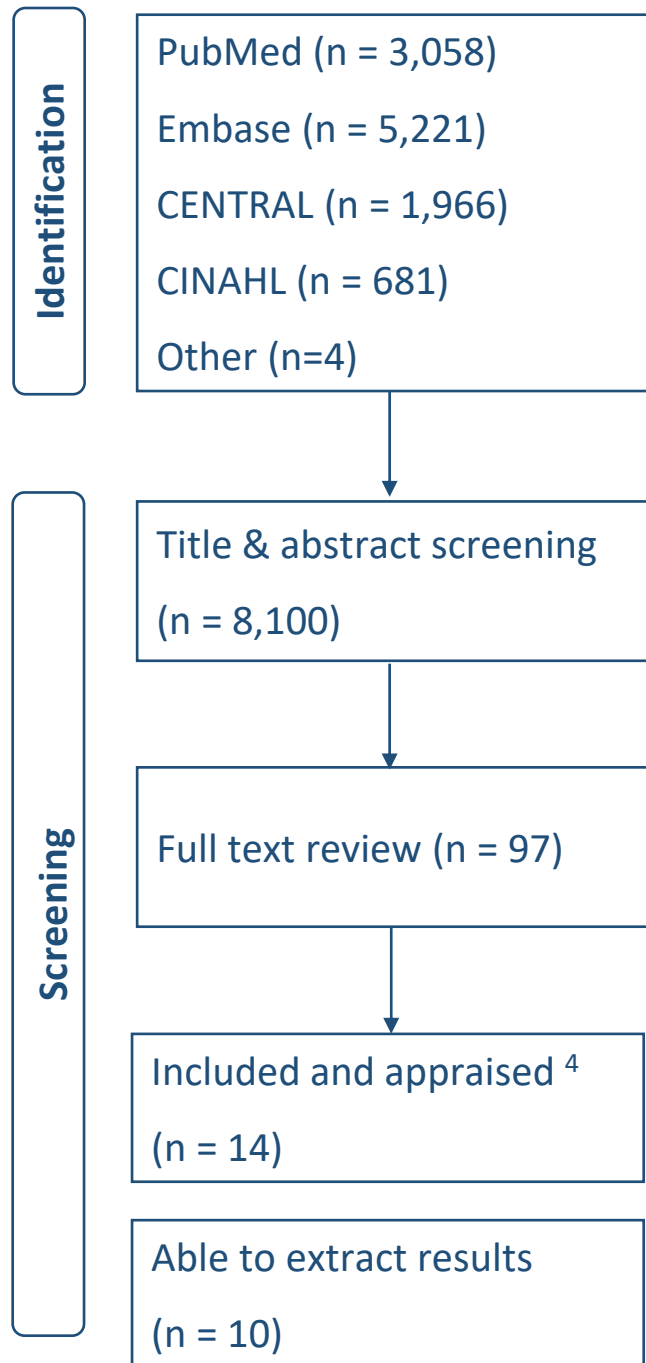


¹ Parrott, J., et al. (2017). *Surgery for Obesity and Related Diseases*, 13(5), 727-741. <https://doi.org/http://dx.doi.org/10.1016/j.soard.2016.12.018>

² O'Kane, M., et al. (2020) *Obesity reviews*, 21(11), e13087. <https://doi.org/https://doi.org/10.1111/obr.13087>

Systematic review ³:

Effect of preoperative vitamin D repletion strategies



Excluded:

Full text unavailable (n=28)

Not intervention/observational (n = 5)

Not preoperative supplementation (n = 38)

No supplementation methods (n = 4)

Not vitamin D (n = 7)

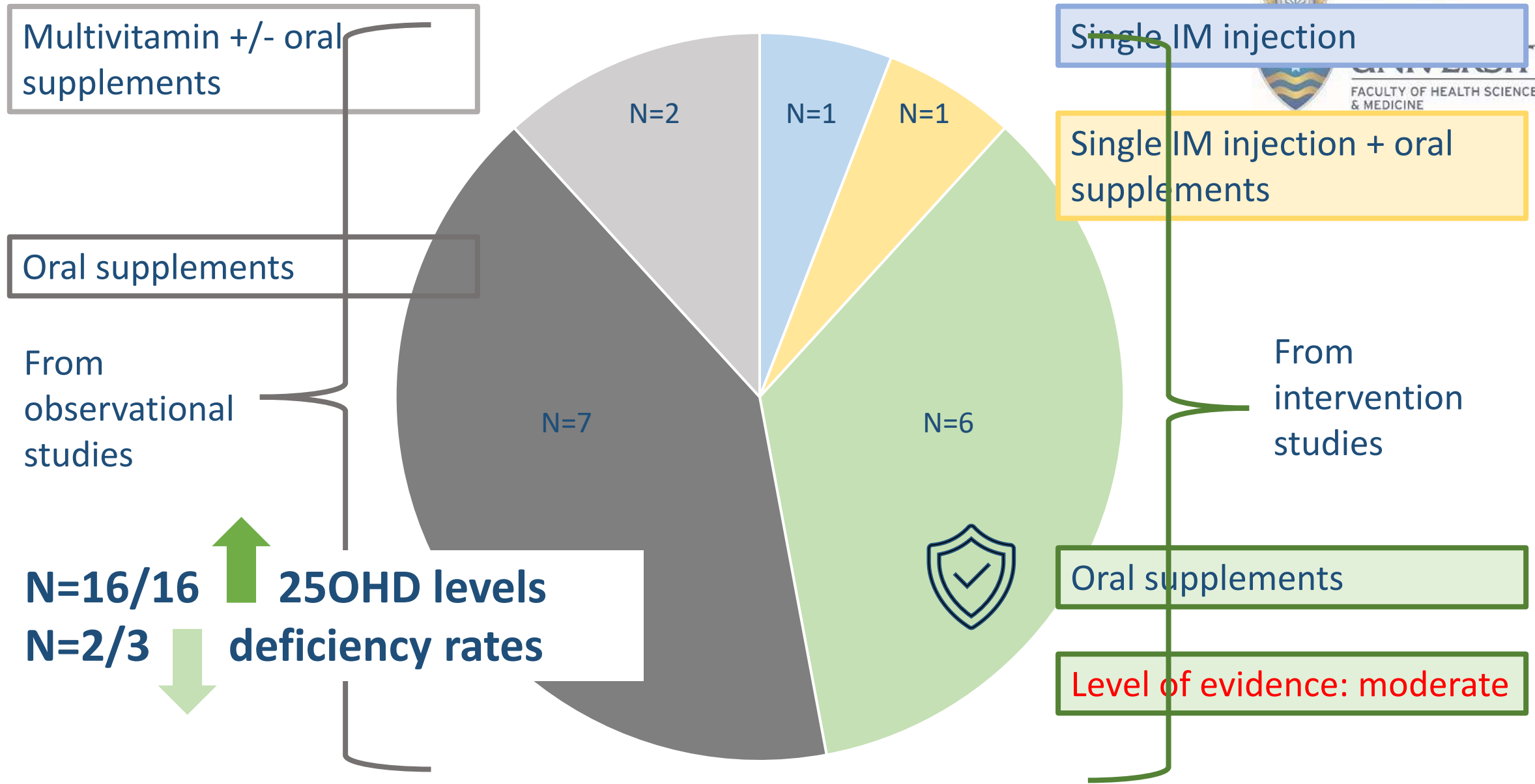
Outdated surgery type (n=1)

³ Page, M. J., et al (2021) *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>

⁴ Academy of Nutrition and Dietetics. (2016). Retrieved 17 Mar from https://www.andeal.org/vault/2440/web/files/2016_April_EA_Manual.pdf

Included studies

Study	Design	Participants	Repletion groups	Quality via QCC
Muschitz (2016, Australia)	2-arm RCT	N=238	1	Positive
Sayadi Shahraki (2019, Iran)	3-arm randomised trial	N=100	3	Positive
Ben-Porat (2021, Israel)	2-arm RCT	N=62	2	Neutral
Stein (2009, USA)	2-arm randomised trial	N=27	2	Neutral
Chan (2015, USA)	1-arm retro cohort	N=134	1	Neutral
Sinha (2011, USA)	1-arm pros cohort	N=114	2	Neutral
Suthakaran (2021, Australia)	1-arm retro cohort	N=370	2	Neutral
Zarshenas (2016, Australia)	1-arm retro cohort	N=91	1	Neutral
Coupaye (2014, France)	1-arm pros cohort	N=86	2	Neutral
Van Rutte (2014, Netherlands)	1-arm retro cohort	N=200	1	Neutral



Overall Findings

Vitamin D serum levels



Vitamin D deficiency rates



Safety





But bone loss...

- Two studies measured
- Improved vitamin D status
- Still lost bone mineral density



Take-home message

- ✓ All included preoperative vitamin D repletion strategies were effective in improving serum levels.
- Effectiveness in terms of deficiency rates was much less reported.
- ❑ Recommend to measure and report deficiency rates and reference ranges in addition to serum levels.
- ❑ Recommend to investigate comprehensive strategies to prevent bone loss.

Thank you

- Stay connected!
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