

# Nutritional guidelines – do we have sufficient evidence? A practical view

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**I have no potential conflict of interest to report**

American Society for Metabolic and Bariatric Surgery Integrated Health  
Nutritional Guidelines for the Surgical Weight Loss Patient 2016  
Update: Micronutrients

2017

Julie Parrott, M.S., R.D.N.<sup>a,\*</sup>, Laura Frank, Ph.D., M.P.H., R.D.N., C.D.<sup>b</sup>,  
Rebecca Rabena, R.D.N., L.D.N.<sup>c</sup>, Lillian Craggs-Dino, D.H.A., R.D.N., L.D.N.<sup>d</sup>,  
Kellene A. Isom, M.S., R.D.N., L.D.N.<sup>e</sup>, Laura Greiman, M.P.H., R.D.N.<sup>f</sup>

**Bariatric Nutrition Guidelines for the Indian Population**

Carlyne Remedios<sup>1</sup> • Aparna Govil Bhasker<sup>1,2</sup> • Neha Dhulla<sup>2</sup> • Shilpa Dhar<sup>1</sup> •  
Muffazal Lakdawala<sup>1,2</sup>

2016

**Recommendations for nutritional care after  
bariatric surgery: Recommendations for  
best practice and  
SOFFCO-MM/AFERO/SFNCM/expert  
consensus<sup>☆</sup>**



2021

D. Quilliot<sup>a,\*</sup>, M. Coupaye<sup>b</sup>, C. Ciangura<sup>b</sup>,  
S. Czernichow<sup>a</sup>, A. Sallé<sup>b</sup>, B. Gaborit<sup>b</sup>, M. Alligier<sup>c</sup>,  
P.-L. Nguyen-Thi<sup>d</sup>, J. Dargent<sup>e</sup>, S. Msika<sup>e</sup>, L. Brunaud<sup>e</sup>

**Nutritional Recommendations for Adult Bariatric  
Surgery Patients: Clinical Practice<sup>1,2</sup>**

2017

Shiri Sherf Dagan,<sup>3,4,11</sup> Ariela Goldenshluger,<sup>3,6,11</sup> Inbal Globus,<sup>3,7</sup> Chaya  
Galit Kowen Sandbank,<sup>3,7</sup> Tair Ben-Porat,<sup>3,6,12</sup> and Tali Sinai<sup>3,10,12\*</sup>

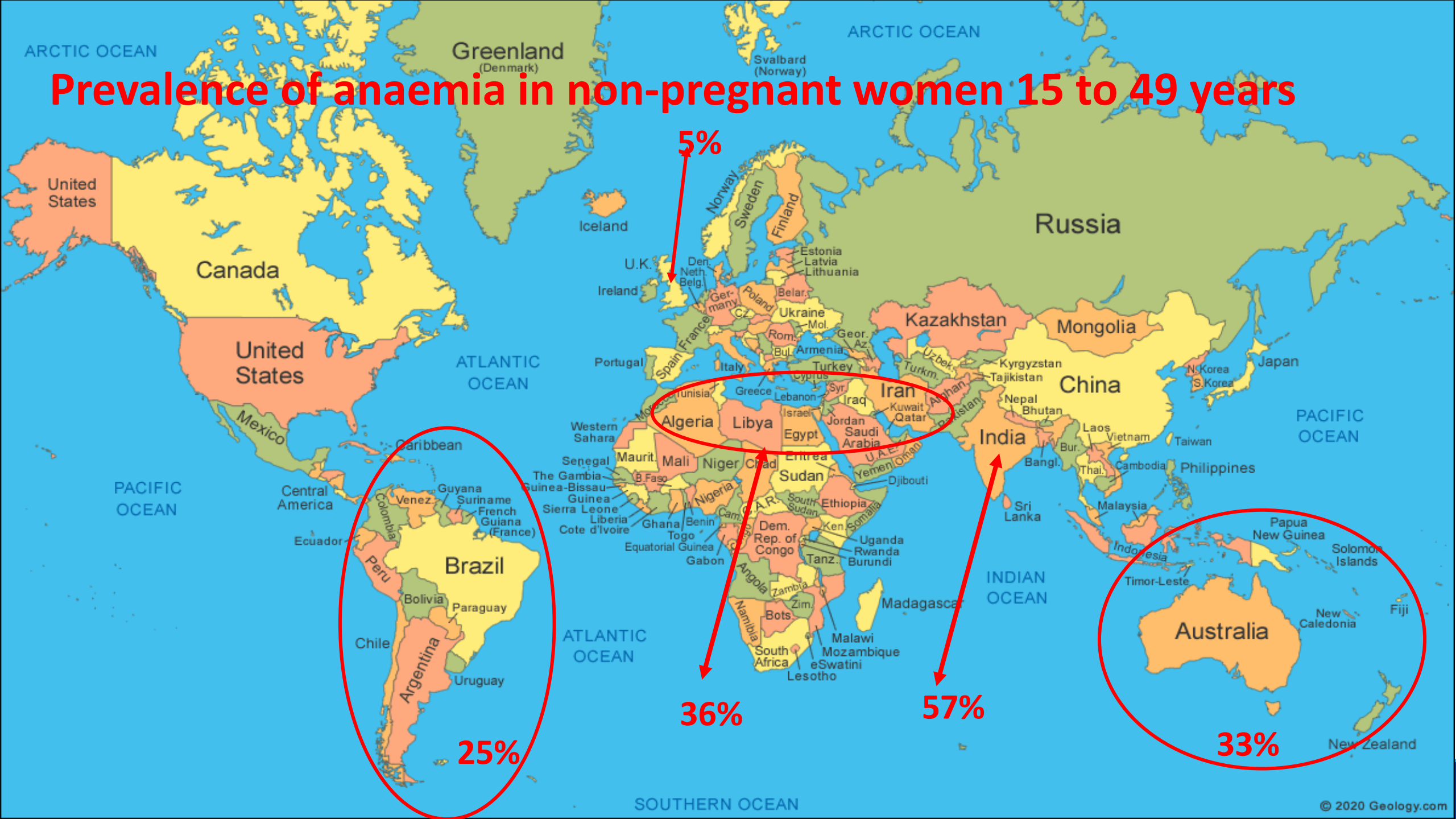
**Nutritional Assessment and Preparation for Adult  
Bariatric Surgery Candidates: Clinical Practice**

2020

Shiri Sherf-Dagan,<sup>1,2</sup> Tali Sinai,<sup>3,4</sup> Ariela Goldenshluger,<sup>5</sup> Inbal Globus,<sup>6</sup> Yafit Kessler,<sup>1,7</sup> Chaya Schweiger,<sup>8</sup> and Tair Ben-Porat<sup>9,10</sup>



# Prevalence of anaemia in non-pregnant women 15 to 49 years



# Prevalence of vitamin A deficiency

High prevalence of zinc deficiency:  
South Asia, Middle East, sub-Saharan Africa  
and Central America. Latin America

24-32%

14-17%

23-26%

19%

# The evidence – the challenge



Surgical procedures



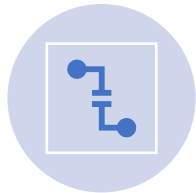
Range of studies



Pre-existing deficiencies prior to surgery



Length of time of follow up



Missing data (real life). Drop out/loss to follow up
































Vitamins and mineral supplements

# Vitamin D status and supplementation before and after Bariatric Surgery: Recommendations based on a systematic review and meta-analysis

Reviews in Endocrine and Metabolic Disorders (2023) 24:1011–1029

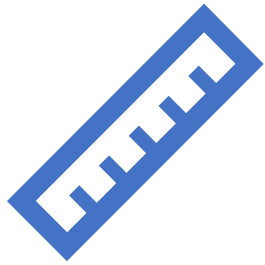
<https://doi.org/10.1007/s11154-023-09831-3>

Andrea Giustina<sup>1</sup>  · Luigi di Filippo<sup>1</sup>  · Antonio Facciorusso<sup>2</sup>  · Robert A. Adler<sup>3</sup>  · Neil Binkley<sup>4</sup>  · Jens Bollerslev<sup>5</sup>  · Roger Bouillon<sup>6</sup>  · Felipe F. Casanueva<sup>7</sup>  · Giulia Martina Cavestro<sup>8</sup>  · Marlene Chakhtoura<sup>9</sup>  · Caterina Conte<sup>10</sup>  · Lorenzo M. Donini<sup>11</sup>  · Peter R. Ebeling<sup>12</sup>  · Angelo Fassio<sup>13</sup>  · Stefano Frara<sup>1</sup>  · Claudia Gagnon<sup>14</sup>  · Giovanni Latella<sup>15</sup>  · Claudio Marcocci<sup>16</sup>  · Jeffrey I. Mechanick<sup>17</sup>  · Salvatore Minisola<sup>18</sup>  · René Rizzoli<sup>19</sup>  · Ferruccio Santini<sup>20</sup>  · Joseph L. Shaker<sup>21</sup>  · Christopher Sempos<sup>22</sup>  · Fabio Massimo Olivieri<sup>1</sup>  · Jyrki K. Virtanen<sup>23</sup>  · Nicola Napoli<sup>24,25</sup>  · Anne L. Schafer<sup>26</sup>  · John P. Bilezikian<sup>27</sup> 

- Pre- op monitoring: Meta analysis - non-comparative observational studies (D, Low)
- Post-op monitoring: Mainly observational studies (D, Low)
- Band and sleeve gastrectomy: “restrictive”; Roux-en-y gastric bypass (RYGB) and Duodenal Switch (DS) “malabsorptive”
- Supplementation oral vs IM for “malabsorptive, based on 3 studies: RCT DS, Observational RYGB, Prospective Interventional Biliopancreatic diversion (BPD). (D, Very low, Expert opinion)



# Vitamin B12



What should we  
measure?



Appropriate  
reference range?  
Ethnicity



Oral, intramuscular?  
Sub-lingual, nasal?

<https://www.nice.org.uk/guidance/ng239>

# Fat-soluble vitamins and trace minerals



Serum fat-soluble vitamins A, E, and K often not measured.  
Cost, access



Zinc, copper and selenium often not measured



When measured, short follow up



Access to high doses of fat-soluble vitamins variable



How do we treat deficiencies?

# Quality Appraisal of Guidelines – AGREE II

- Scope and purpose
- **Stakeholder involvement - relevant professions, target population including patients**
- Rigor of development – search strategy, evidence rating, recommendation
- **Clarity of presentation – specific recommendations**
- **Applicability - barriers/facilitators to implementation**
- Editorial independence – financial disclosure, conflicts of interest
- Overall quality
- **Potential recommendation for use in clinical practice**

Lee et al 2024. International Journal of Obesity; <https://doi.org/10.1038/s41366-024-01559-7>

Lee et al, IJO 2024

# Nutritional guidelines – practical implications

Do national or other society guidelines meet the needs of local population and health services?



Consider contributing to the evidence base by publishing and disseminating outcomes



Without guidelines it is difficult to make the case for long-term care and follow-up

# BOMSS Nutritional Guidelines 2020

