



21-22 Dicembre 2020  
XXVIII Congresso Nazionale  
SICOB ONLINE



UNIVERSITÀ DEGLI STUDI  
DI SALERNO



UOC CHIRURGIA GENERALE E D'URGENZA  
A.O.U. «San Giovanni di Dio e Ruggi d'Aragona»  
Ospedale Amico «G. Fucito», Mercato San Severino – Salerno  
(DIRETTORE: PROF. VINCENZO PILONE)  
Centro di ECCELLENZA di Chirurgia Bariatrica, SICOB

## EFFETTI DEL LOCKDOWN DA SARS-CoV-2 SUL PERCORSO PREOPERATORIO DEI PAZIENTI CON OBESITÀ CANDIDATI A CHIRURGIA BARIATRICA IN UN CENTRO DI ECCELLENZA SICOB DEL SUD ITALIA

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# SARS-CoV-2 Pandemia

**MARZO 2020:** l'Organizzazione Mondiale della Sanità (OMS), dopo aver valutato i livelli di gravità e diffusione dell'infezione da SARS-CoV-2 (*Severe acute respiratory syndrome coronavirus*) ha dichiarato che tale focolaio può essere considerato una pandemia.

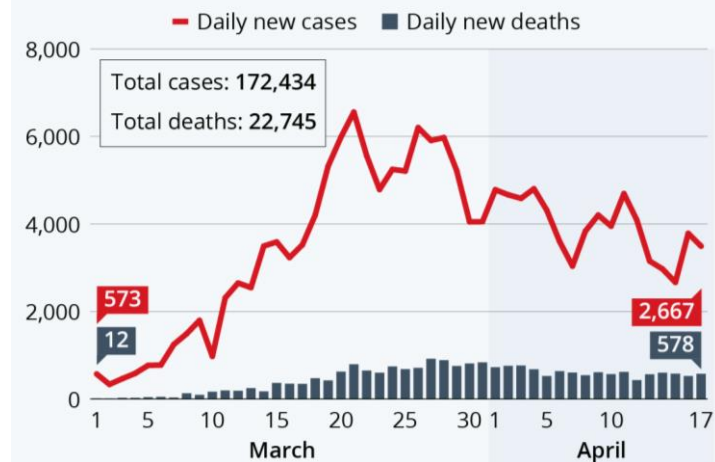


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## COVID-19: Italy

Daily new cases and daily new deaths due to COVID-19 in Italy







Governo Italiano  
Presidenza del Consiglio dei Ministri

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## Il Presidente Conte firma il Dpcm 9 marzo 2020

9 Marzo 2020



REGIONE  
CAMPANIA

## Coronavirus in Campania, stop ai ricoveri programmati nelle strutture sanitarie

Ad annunciarlo è la direzione generale per la tutela della salute della Regione ai direttori generali e commissari straordinari delle Asl e delle Aziende Ospedaliere





# Preoperative care



Patients candidate to bariatric surgery between march/may 2020  
n=88 (18 M, 70 F)



Patients under 4-weeks preoperative program  
n=36 (12 M, 24 F)

Table 2. Characteristics of the study patients at baseline



Clinical characteristics	Baseline mean ±SD
†Patients (M/F)	12/24
Body weight, kg (M/F)	136.3±6.67/127.5±5.03
BMI (kg/m <sup>2</sup> )	44.5±10.5/46.9±11.7
†Vitamin B12 deficiency (M/F)	7/8
†Folic Acid deficiency (M/F)	6/8
†Vitamin D deficiency (M/F)	10/12
†Iron deficiency (M/F)	4/8
†Zinc deficiency (M/F)	2/7
†Hypertension (M/F)	5/3
†Diabetes type 2 (M/F)	4/2
†Dyslipidemia (M/F)	4/4

† Number of patients

BMI = Body Mass Index

M = Male

F = Female



# Background

Volume 86 / Number 1 / 2016

International Journal for

## Vitamin and Nutrition Research

Int. J. Vitam. Nutr. Res., 2016, 1–8

1

Original Communication

### Micronutrient Deficiencies in Patients Candidate for Bariatric Surgery: A Prospective, Preoperative Trial of Screening, Diagnosis, and Treatment

Luigi Schiavo<sup>1</sup>, Giuseppe Scalerà<sup>1</sup>, Vincenzo Pitone<sup>2</sup>, Gabriele De Sena<sup>1</sup>, Vincenza Capuozzo<sup>1</sup>, and Alfonso Barbarisi<sup>1</sup>



Surgery for Obesity and Related Diseases 13 (2017) 727–741



Review article

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

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>

ABCDV/942

ABCD Arq Bras Cir Dig  
2013;26(Suplemento 1):63-66

Review Article

#### MICRONUTRIENT DEFICIENCIES IN THE PRE-BARIATRIC SURGERY

*Deficiências de micronutrientes no pré-operatório de cirurgia bariátrica*

Karla Vanessa Gomes de LIMA, Maria José de Carvalho COSTA,  
Maria da Conceição Rodrigues GONÇALVES, Bruno Soares de SOUSA



NIH Public Access  
Author Manuscript

*Pediatr Clin North Am.* Author manuscript; available in PMC 2010 October 1.

Published in final edited form as:

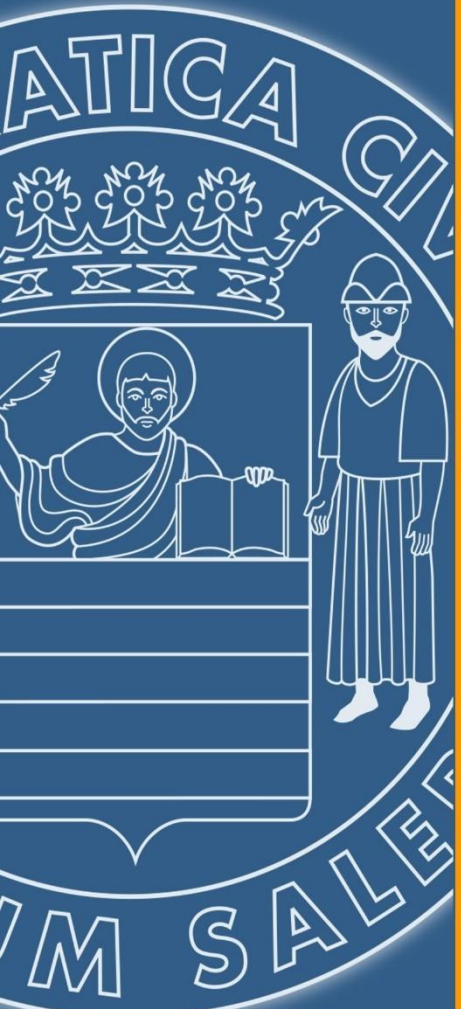
*Pediatr Clin North Am.* 2009 October ; 56(5): 1105–1121. doi:10.1016/j.pcl.2009.07.002.

Nutritional Deficiencies in Obesity and After Bariatric Surgery

Stavra A. Xanthakos, MD, MS<sup>a,b</sup>

Between 35-80% of bariatric candidates are, **PARADOXALLY**, in a state of **“HIGH CALORIE MALNUTRITION”** and shows some micronutrients deficiencies pre-operatively





# Background

Obesity Surgery  
<https://doi.org/10.1007/s11695-020-04649-3>



LETTER TO THE EDITOR

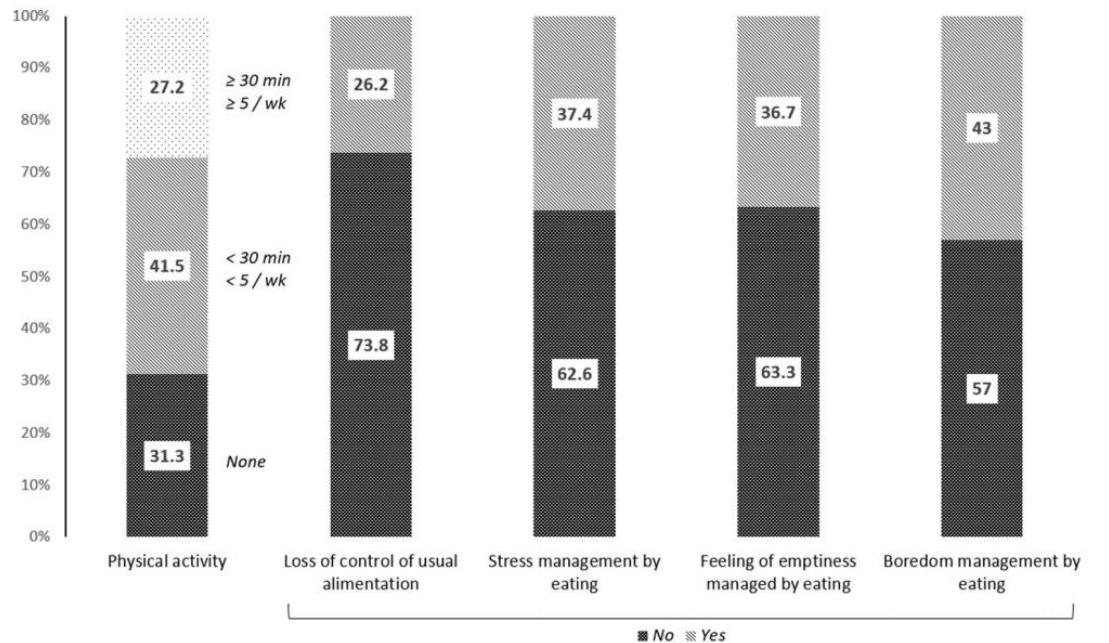


## Behavioral Food Addiction During Lockdown: Time for Awareness, Time to Prepare the Aftermath

Faredj Cherikh<sup>1</sup> · Sébastien Frey<sup>2,3</sup> · Corali Bel<sup>1,2</sup> · Giuseppe Attanasi<sup>4</sup> · Marco Alifano<sup>5,6</sup> · Antonio Iannelli<sup>2,3,7,8</sup>

OBES SURG

**Fig. 1** Stacked bar chart representing the percentage of answer for each item asked

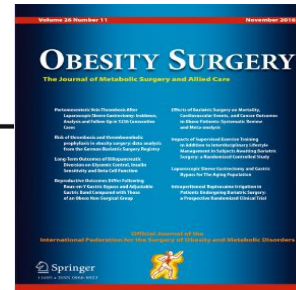




# Our Pre-bariatric surgery program

Obesity Surgery (2018) 28:2215–2224  
<https://doi.org/10.1007/s11695-018-3145-8>

ORIGINAL CONTRIBUTIONS



## A 4-Week Preoperative Ketogenic Micronutrient-Enriched Diet Is Effective in Reducing Body Weight, Left Hepatic Lobe Volume, and Micronutrient Deficiencies in Patients Undergoing Bariatric Surgery: a Prospective Pilot Study

Luigi Schiavo<sup>1,2</sup> • Vincenzo Pilone<sup>3</sup> • Gianluca Rossetti<sup>4</sup> • Alfonso Barbarisi<sup>1,2</sup> • Manuela Cesaretti<sup>5,6</sup> • Antonio Iannelli<sup>7,8,9</sup>

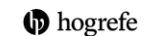
Original Communication

## Correcting micronutrient deficiencies before sleeve gastrectomy may be useful in preventing early postoperative micronutrient deficiencies

Luigi Schiavo<sup>1</sup>, Vincenzo Pilone<sup>1,2</sup>, Gianluca Rossetti<sup>3</sup>, Mafalda Romano<sup>1</sup>, Gorizio Pieretti<sup>4</sup>, Anne-Sophie Schneck<sup>5</sup>, and Antonio Iannelli<sup>6,7,8</sup>



Int J Vitam Nutr Res. 2019 Jan 29:1-7  
doi: 10.1024/0300-9831/a000532





# Aim of the study, protocol and outcomes

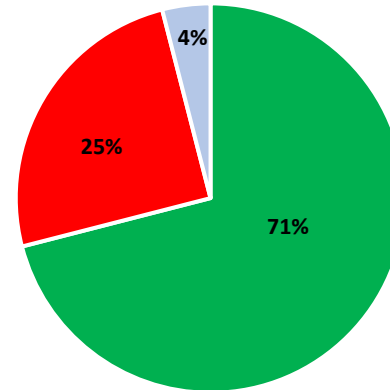


To assess dietary habits, weight and micronutrient status, evolution of comorbidities, use of micronutrient supplements, and frequency of physical activity in a cohort of patient's candidate to bariatric surgery and under preoperative program during the SARS-CoV-2 lockdown

Patients candidate to bariatric surgery between march/may 2020  
n=88 (18 M, 70 F)

Patients under 4-weeks preoperative program  
n=36 (12 M, 24 F)

Low-Calorie Ketogenic Diet (1200 kcal/day)



■ Fats ■ Proteins ■ Carbs

Analyzed (n=36)

- Dietary habits (by a 7-days food dietary records)
- Physical Activity frequency
- Use of Micronutrient supplement
- BW
- BMI
- Micronutrient status
- Evolution of comorbidities

## INFORMAZIONI NUTRIZionali

Valori medi	per 100 g	per compressa (1,3 g)
Energia	1464 kJ 353 kcal	19 kJ 5 kcal
Grassi	17 g	0 g
di cui: acidi grassi saturi	17 g	0 g
Carboidrati	28 g	0 g
di cui zuccheri	5,4 g	0 g
Fibre	28 g	0 g
Proteine	9,3 g	0 g
Sale	0,13 g	0 g
Magnesio	4331 mg	56,3 mg
Ferro	5000 mg	65 mg
Zinco	769 mg	10 mg
Rame	77 mg	1 mg
Selenio	4231 mcg	55 mcg
Vitamina C	9231 mg	120 mg
Vitamina E	7692 mg	100 mg
Tiamina	769 mg	10 mg
Riboflavina	100 mg	1,3 mg
Vitamina B6	115 mg	1,5 mg
Acido pantotenico	769 mg	10 mg
Niacina	769 mg	10 mg
Vitamina A	92308 mcg	1200 mcg
Acido folico	30769 mcg	400 mcg
Biotina	3846 mcg	50 mcg
Vitamina B12	38462 mcg	500 mcg
Vitamina D	13462 mcg	175 mcg
Vitamina K	11538 mcg	150 mcg





# Results



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**Table 1.** Demographics

Variables	N	%
<b>Patients</b>	36	
<b>Gender</b>		
M	12	33.3
F	24	66.7
<b>Age</b>		
18-42	25	69.4
43-65	11	30.6
<b>Family composition</b>		
Live alone	10	27.8
Live with spouse	18	50
Live with parents	8	22.2
<b>Education/Graduation</b>		
Elementary School	2	5.6
Middle School	19	52.8
High School Diploma	10	27.8
University Degree	5	13.8
<b>Occupation</b>		
Full-time worker	11	30.5
Part-time worker	7	19.4
Unemployed	4	11.1
Housewives	12	33.3
Students	2	5.7

N = Number of patients  
M = Male  
F = Female

**Table 2.** Characteristics of the study patients at baseline

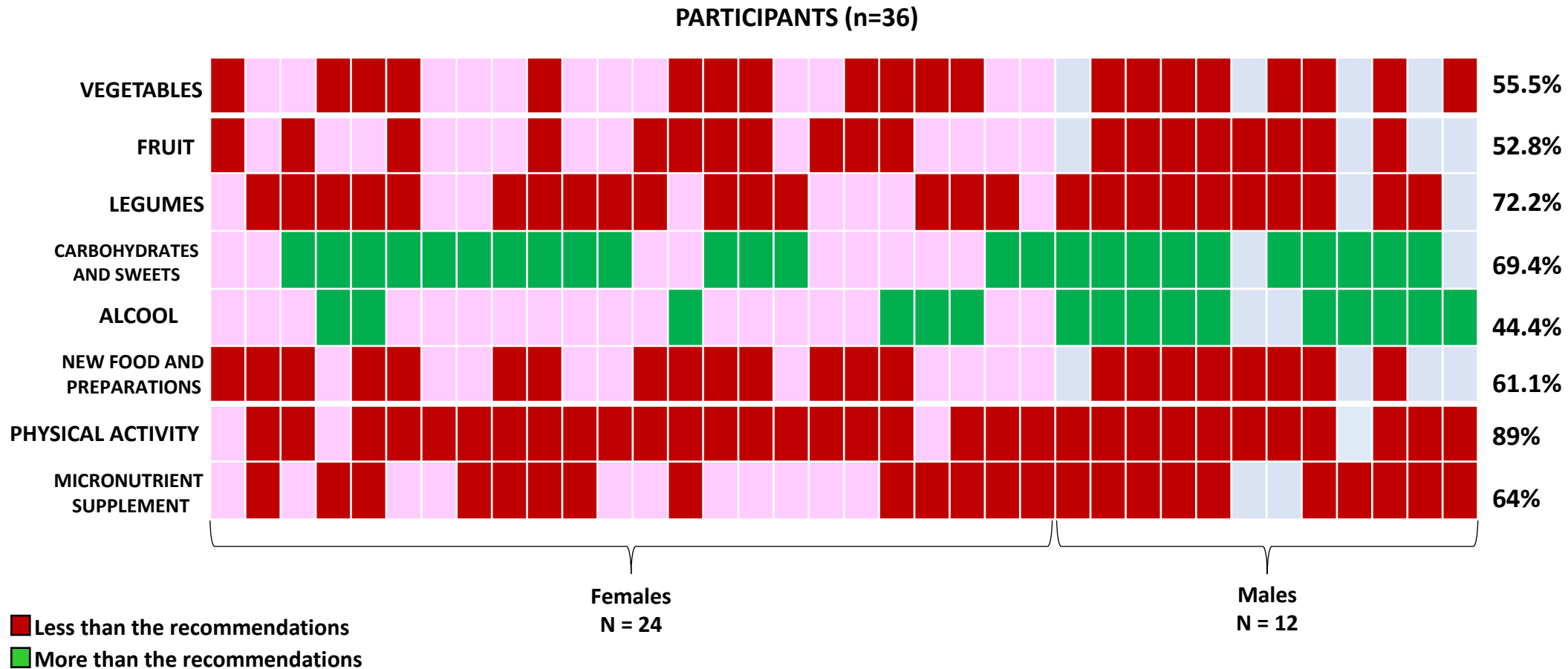
Clinical characteristics	Baseline mean $\pm$ SD
†Patients (M/F)	12/24
Body weight, kg (M/F)	136.3 $\pm$ 6.67/127.5 $\pm$ 5.03
BMI (kg/m <sup>2</sup> )	44.5 $\pm$ 10.5/46.9 $\pm$ 11.7
†Vitamin B12 deficiency (M/F)	7/8
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†Zinc deficiency (M/F)	2/7
†Hypertension (M/F)	5/3
†Diabetes type 2 (M/F)	4/2
†Dyslipidemia (M/F)	4/4

† Number of patients

BMI = Body Mass Index  
M = Male  
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# Results: heat map representation



**L'intake calorico è risultato in media maggiore dell'86% rispetto a quanto prescritto (2232 vs 1200 kcal/giorno).**



# Results

**Table 2.** Characteristics of the study patients at baseline and after a 4-weeks course of preoperative ketogenic micronutrient enriched diet

Clinical characteristics	Baseline mean $\pm$ SD	4-weeks follow up mean $\pm$ SD	P
†Patients (M/F)	12/24	12/24	-
Body weight, kg (M/F)	136.3 $\pm$ 6.67/127.5 $\pm$ 5.03	141 $\pm$ 6.1/132.1 $\pm$ 4.57	<0.05
BMI (kg/m <sup>2</sup> )	44.5 $\pm$ 10.5/46.9 $\pm$ 11.7	48.2 $\pm$ 6.5/48,7 $\pm$ 13.4	<0.05
†Vitamin B12 deficiency (M/F)	7/8	6/8	-
†Folic Acid deficiency (M/F)	6/8	5/8	-
†Vitamin D deficiency (M/F)	10/12	10/12	-
†Iron deficiency (M/F)	4/8	2/8	-
†Zinc deficiency (M/F)	2/7	2/7	-
†Hypertension (M/F)	5/3	5/3	-
†Diabetes type 2 (M/F)	4/2	4/2	-
†Dyslipidemia (M/F)	4/4	4/4	-

† Number of patients

\*not statistically significant

**BMI** = Body Mass Index

**M** = Male

**F** = Female





# Conclusions and take-home message



- Il lockdown nazionale riferito al periodo marzo-maggio 2020 determinatosi in seguito alla pandemia da SARS-CoV-2 ha influito negativamente sul percorso preoperatorio dei pazienti obesi candidati ad intervento chirurgico bariatrico, con conseguente slittamento della data dell'intervento alla ripresa delle attività chirurgica bariatrica verificatasi nel giugno 2020



- In vista di ulteriori potenziali periodi di lockdown con conseguente impossibilità di seguire i pazienti bariatrici mediante la classica attività ambulatoriale è essenziale potenziare le strategie telematiche (es. telemedicina, videoconsultazioni, ecc.) al fine di rendere maggiormente efficace il management dietologico-nutrizionale preoperatorio dei pazienti con obesità candidati a chirurgia bariatrica.