

Table 1. General characteristics of the study population according to type of BS.

Characteristic	Study population (n=119)		RYGB (n=80)		SG (n=39)	
Maternal age at conception (years)	31.3	± 4.7	32.1	± 4.5	29.7	± 4.9
Geographic origin						
West European	110	(92.4)	76	(95.0)	34	(87.2)
Other	9	(7.6)	4	(5.0)	5	(12.8)
Highest level of education ¹						
Low	21	(17.6)	16	(20.0)	5	(12.8)
Medium	45	(37.8)	30	(37.5)	15	(38.5)
High	24	(20.2)	15	(18.8)	9	(23.1)
missing	29	(24.4)	19	(23.8)	10	(25.6)
Smoking status						
Never	73	(61.3)	45	(56.3)	28	(71.8)
Former	22	(18.5)	18	(22.5)	4	(10.3)
Current	24	(20.2)	17	(21.3)	7	(17.9)
Pre-existent diabetes mellitus	1	(0.8)	0	(0.0)	1	(2.6)
Pre-existent hypertension	1	(0.8)	1	(1.3)	0	(0.0)
BMI before surgery (kg/m ²) ²	44.0	± 5.4	43.9	± 5.3	44.2	± 5.5
BMI at conception (kg/m ²)	28.7	[26.0-32.5]	29.0	[25.9-32.0]	27.7	[26.0-33.0]
TWL from surgery to conception (%) ²	32.2	± 8.9	32.0	± 9.1	32.5	± 8.5

Time from surgery to conception (months)	41.0	[18.5-70.0]	50.0	[23.4-77.0]	32.2	[16.4-43.8]
<12 months	11	(9.2)	6	(7.5)	5	(12.8)
12-24 months	23	(19.3)	13	(16.3)	10	(25.6)
>24 months	85	(71.4)	61	(76.3)	24	(61.5)
Primiparity	57	(47.9)	34	(42.5)	23	(59.0)
Gestational weight gain (kg) ³	10.6	± 7.2	9.9	± 6.9	11.9	± 7.7
Inadequate weight gain	22	(18.5)	16	(20.0)	6	(15.4)
Adequate weight gain	22	(18.5)	15	(18.8)	7	(17.9)
Excessive weight gain	38	(31.9)	25	(31.3)	13	(33.3)
missing	37	(31.1)	24	(30.0)	13	(33.3)
Pregnancy complications						
Gestational diabetes mellitus	6	(5.0)	6	(7.5)	0	(0.0)
Hypertensive disorders	7	(5.9)	3	(3.8)	4	(10.3)
Hyperemesis gravidarum	3	(2.5)	0	(0.0)	3	(7.7)
Internal herniation	3	(2.5)	3	(3.8)	-	

Data are presented as mean ± SD, median [Q1-Q3] or frequency (percentage).

RYGB, Roux-en-Y gastric bypass; *SG*, sleeve gastrectomy; *BMI*, Body Mass Index; *TWL*, total body weight loss.

¹ Low education = primary education and prevocational secondary education; medium education = senior general secondary education, pre-university education and secondary vocational education; high education = higher vocational education and university.

² Missing for n=5 (RYGB).

³ According to NAM recommendations.

Table 2. Prevalence of serum levels below the lower reference limit during each trimester of pregnancy (T1, T2, T3) for WLS-MVS users versus sMVS users, stratified by type of BS.

Serum variables	Trimester	RYGB (n=80)			SG (n=39)										
		n	WLS	MVS	n	sMVS	P-value	n	WLS	MVS	n	sMVS	P-value		
Haemoglobin	T1	48	6	(12.5)	21	7	(33.3)	0.05	15	0	(0.0)	14	1	(7.1)	0.48
	T2	57	7	(12.3)	19	4	(21.1)	0.45	17	1	(5.9)	20	1	(5.0)	0.99
	T3	55	6	(10.9)	18	3	(16.7)	0.68	16	1	(6.3)	18	2	(11.1)	0.99
Ferritin	T1	47	9	(19.1)	21	6	(28.6)	0.53	14	0	(0.0)	11	1	(9.1)	0.44
	T2	54	16	(29.6)	18	10	(55.6)	0.047	17	6	(35.3)	19	4	(21.1)	0.46
	T3	52	19	(36.5)	18	13	(72.2)	0.01	16	10	(62.5)	18	10	(55.6)	0.68
Folic acid	T1	48	1	(2.1)	21	1	(4.8)	0.52	14	0	(0.0)	11	0	(0.0)	-
	T2	54	3	(5.6)	16	0	(0.0)	0.99	17	2	(11.8)	19	1	(5.3)	0.59
	T3	51	6	(11.8)	18	1	(5.6)	0.67	15	2	(13.3)	18	4	(22.2)	0.67
Vitamin B12	T1	48	6	(12.5)	21	4	(19.0)	0.48	14	1	(7.1)	13	3	(23.1)	0.33
	T2	54	12	(22.2)	16	6	(37.5)	0.33	17	3	(17.6)	19	2	(10.5)	0.65
	T3	52	12	(23.1)	17	8	(47.1)	0.07	15	3	(20.0)	18	4	(22.2)	0.99
Vitamin A	T1	20	3	(15.0)	12	5	(41.7)	0.12	8	3	(37.5)	8	1	(12.5)	0.57
	T2	22	3	(13.6)	8	2	(25.0)	0.59	14	3	(21.4)	13	3	(23.1)	0.99
	T3	18	4	(22.2)	11	5	(45.5)	0.24	10	4	(40.0)	14	2	(14.3)	0.19
Vitamin B1	T1	46	1	(2.2)	21	0	(0.0)	0.99	12	0	(0.0)	12	0	(0.0)	-

	T2	53	0 (0.0)	16	0 (0.0)	-	17	1 (5.9)	18	0 (0.0)	0.49
	T3	48	0 (0.0)	18	1 (5.6)	0.27	15	2 (13.3)	18	0 (0.0)	0.20
Vitamin B6	T1	46	0 (0.0)	21	0 (0.0)	-	12	0 (0.0)	12	0 (0.0)	-
	T2	54	0 (0.0)	16	0 (0.0)	-	17	0 (0.0)	18	0 (0.0)	-
	T3	48	1 (2.1)	18	1 (5.6)	0.47	15	2 (13.3)	18	0 (0.0)	0.20
Vitamin D	T1	48	12 (25.0)	21	9 (42.9)	0.14	15	2 (13.3)	13	5 (38.5)	0.20
	T2	54	12 (22.2)	17	5 (29.4)	0.53	17	3 (17.6)	19	7 (36.8)	0.27
	T3	51	12 (23.5)	18	6 (33.3)	0.53	16	2 (12.5)	18	7 (38.9)	0.13
Calcium¹	T1	45	3 (6.7)	21	0 (0.0)	0.55	14	0 (0.0)	11	0 (0.0)	-
	T2	55	2 (3.6)	16	0 (0.0)	0.99	17	0 (0.0)	19	0 (0.0)	-
	T3	50	0 (0.0)	17	1 (5.9)	0.25	16	0 (0.0)	18	0 (0.0)	-

Data are presented as frequency (percentage).

RYGB, Roux-en-Y gastric bypass; *SG*, sleeve gastrectomy; *WLS-MVS*, 'weight loss surgery' multivitamin supplement; *sMVS*, standard multivitamin supplement (regular or prenatal supplements).

¹Corrected for albumin levels