

A prospective real-world study of *Bacillus clausii* evaluating use, treatment habits and patient satisfaction at Italian community pharmacies – PEGASO

Drugs – Real World Outcomes

Corrado Giua,¹ Flora Romano,¹ Enrico Keber,^{1*} Paolo Pellegrino,² Marcos Perez III,³ Maria Chiara Ubaldi,² On behalf of SGCP[†]

¹Società Italiana Farmacia Clinica (SIFAC), Cagliari, Italy

²Sanofi, Milan, Italy

³Sanofi, Frankfurt, Germany

[†]SIFAC group of clinical pharmacist (SGCP): Maria Luisa Bastianini, Erika Belei, Federica Carpinella, Stefania Casu, Cesare Cecchini, Pietro Cossu, David Delitala, Rita Demontis, Elena Giusti, Alessandro Fasciolo, Giuseppe Fimiani, Nicolina Floris, Marco Fortini, Michele Modugno, Enrico Onano, Carla Onnis, Federico Palmas and Maria José Sequenza

***Corresponding author:**

Enrico Keber

Email ID: enrico.keber@gmail.com

Supplementary Table 1. Summary of main reasons for using EG; evaluable population at T0 and T1

Cohort	Reasons	N	Diarrhoea		Abdominal pain		Bloating		Meteorism		Constipation		Abdominal tension	
			n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI	n (%)	95% CI
By symptoms														
T0	Symptoms	267	152 (56.93)	48.86, 64.65	35 (13.11)	8.59, 19.51	33 (12.36)	7.98, 18.65	10 (3.75)	1.67; 8.17	25 (9.36)	5.64; 15.15	12 (4.49)	2.15; 9.15
T1	Symptoms	261	148 (56.70)	48.54, 64.52	35 (13.41)	8.79, 19.93	33 (12.64)	8.17, 19.06	10 (3.83)	1.71; 8.35	24 (9.20)	5.48; 15.03	11 (4.21)	1.95; 8.85
By intolerance														
T0	No intolerance to food/food component	235	133 (56.60)	48.00; 64.81	27 (11.49)	7.08; 18.12	31 (13.19)	8.41; 20.09	9 (3.83)	1.64; 8.67	24 (10.21)	6.10; 16.62	11 (4.68)	2.17; 9.80
	Intolerance to food/food component	32	19 (59.38)	36.87; 78.53	8 (25.00)	10.63; 48.31	2 (6.25)	1.19; 26.94	1 (3.13)	0.35; 22.64	1 (3.13)	0.35; 22.64	1 (3.13)	0.35; 22.64
T1	No intolerance to food/food component	231	130 (56.28)	47.61; 64.58	27 (11.69)	7.20; 18.42	31 (13.42)	8.56; 20.42	9 (3.90)	1.67; 8.82	23 (9.96)	5.87; 16.38	11 (4.76)	2.21; 9.96
	Intolerance to food/food component	30	18 (60.00)	36.77; 79.46	8 (26.67)	11.37; 50.75	2 (6.67)	1.27; 28.38	1 (3.33)	0.38; 23.87	1 (3.33)	0.38; 23.87	0	-
By physical activity														
T0	More than 1 time per week	90	55 (61.11)	47.23; 73.40	10 (11.11)	5.03; 22.77	9 (10.00)	4.34; 21.41	4 (4.44)	1.30; 14.13	7 (7.78)	3.02; 18.60	5 (5.56)	1.83; 15.66

	Once a week	21	8 (38.10)	16.65; 65.47	8 (38.10)	16.65; 65.47	3 (14.29)	3.58; 42.77	1 (4.76)	0.54; 31.51	1 (4.76)	0.54; 31.51	0	-
	Occasionally	77	47 (61.04)	46.05; 74.19	6 (7.79)	2.82; 19.77	10 (12.99)	5.90; 26.21	1 (1.30)	0.15; 10.53	10 (12.99)	5.90; 26.21	3 (3.90)	0.96; 14.47
	Never	79	42 (53.16)	38.71; 67.11	11 (13.92)	6.57; 27.12	11 (13.92)	6.57; 27.12	4 (5.06)	1.48; 15.92	7 (8.86)	3.45; 20.94	4 (5.06)	1.48; 15.92
T1	More than 1 time per week	88	54 (61.36)	47.32; 73.74	10 (11.36)	5.15; 23.24	9 (10.23)	4.44; 21.85	4 (4.55)	1.33; 14.43	7 (7.95)	3.09; 18.98	4 (4.55)	1.33; 14.43
	Once a week	21	8 (38.10)	16.65; 65.47	8 (38.10)	16.65; 65.47	3 (14.29)	3.58; 42.77	1 (4.76)	0.54; 31.51	1 (4.76)	0.54; 31.51	0	-
	Occasionally	73	44 (60.27)	44.91; 73.84	6 (8.22)	2.97; 20.74	10 (13.70)	6.23; 27.48	1 (1.37)	0.16; 11.05	9 (12.33)	5.37; 25.85	3 (4.11)	1.01; 15.19
	Never	79	42 (53.16)	38.71; 67.11	11 (13.92)	6.57; 27.12	11 (13.92)	6.57; 27.12	4 (5.06)	1.48; 15.92	7 (8.86)	3.45; 20.94	4 (5.06)	1.48; 15.92
By previous use of probiotics														
T0	No previous use of probiotics	185	102 (55.14)	45.48; 64.42	26 (14.05)	8.61; 22.10	22 (11.89)	6.96; 19.59	7 (3.78)	1.46; 9.46	21 (11.35)	6.55; 18.95	7 (3.78)	1.46; 9.46
	Previous use of probiotics	82	50 (60.98)	46.45; 73.79	9 (10.98)	4.77; 23.29	11 (13.41)	6.32; 26.23	3 (3.66)	0.90; 13.67	4 (4.88)	1.43; 15.39	5 (6.10)	2.01; 17.06
T1	No previous use of probiotics	180	99 (55.00)	45.21; 64.41	26 (14.44)	8.86; 22.68	22 (12.22)	7.15; 20.10	7 (3.89)	1.50; 9.71	20 (11.11)	6.32; 18.79	6 (3.33)	1.20; 8.95
	Previous use of probiotics	81	49 (60.49)	45.89; 73.44	9 (11.11)	4.83; 23.55	11 (13.58)	6.40; 26.52	3 (3.70)	0.91; 13.82	4 (4.94)	1.44; 15.57	5 (6.17)	2.03; 17.25
Derived from questionnaire^a														
T0		267	159 (59.55)	NA	79 (29.59)	NA	60 (22.47)	NA	27 (10.11)	NA	27 (10.11)	NA	25 (9.36)	NA

T1		261	155 (59.39)		79 (30.27)		59 (22.61)		27 (10.34)		26 (9.96)		23 (8.81)	
----	--	-----	----------------	--	---------------	--	---------------	--	---------------	--	-----------	--	-----------	--

Percentages were computed on subjects belonging to the evaluable population at T0 and T1.

95% simultaneous CI have been computed applying Goodman's method for multinomial proportions.

aSubjects who reported more than one reason for using EG.

Evaluable population at T0 consists in all enrolled subjects fulfilling inclusion/exclusion criteria and performing the T0 evaluation. Evaluable population at T1 consists in a subset of the evaluable population at T0 including subjects with the T1 evaluation.

CI, Confidence Interval

Supplementary Table 2. Summary of intensity of symptoms - shift table; evaluable population at T1

	Intensity at T0, n (%)					
	Very strong (N=25) n (%)	Strong (N=58) n (%)	Moderate (N=58) n (%)	Mild (N=13) n (%)	Absent (N=1) n (%)	Missing (N=0) n (%)
Diarrhoea	0	1 (1.72)	0	0	0	0
Very strong	1 (4.00)	0	0	0	0	0
Strong	3 (12.00)	3 (5.17)	2 (3.45)	0	0	0
Moderate	3 (12.00)	10 (17.24)	3 (5.17)	3 (23.08)	0	0
Mild	18 (72.00)	43 (74.14)	53 (91.38)	10 (76.92)	1 (100.00)	0
Absent	0	1 (1.72)	0	0	0	0
Missing						
Abdominal pain						
Strong	0	1 (3.70)	0	0	0	0
Mild	1 (12.50)	3 (11.11)	8 (23.53)	1 (11.11)	1 (100.00)	0
Absent	6 (75.00)	20 (74.07)	22 (64.71)	8 (88.89)	0	0
Missing	1 (12.50)	3 (11.11)	4 (11.76)	0	0	0
Bloating						
Mild	8 (61.54)	5 (31.25)	5 (29.41)	4 (33.33)	0	0
Absent	2 (15.38)	8 (50.00)	8 (47.06)	8 (66.67)	0	1 (100.00)
Missing	3 (23.08)	3 (18.75)	4 (23.53)	0	0	0
Meteorism						
Mild	0	4 (44.44)	7 (63.64)	2 (50.00)	1 (100.00)	0
Absent	1 (50.00)	3 (33.33)	2 (18.18)	2 (50.00)	0	0
Missing	1 (50.00)	2 (22.22)	2 (18.18)	0	0	0
Constipation						
Moderate	1 (16.67)	4 (33.33)	0	0	0	0
Mild	3 (50.00)	4 (33.33)	3 (50.00)	1 (100.00)	0	0
Absent	2 (33.33)	4 (33.33)	3 (50.00)	0	1 (100.00)	0
Abdominal tension						
Moderate	0	1 (8.33)	1 (20.00)	0	0	0
Mild	1 (50.00)	3 (25.00)	2 (40.00)	1 (25.00)	0	0
Absent	1 (50.0)	8 (66.67)	2 (40.00)	3 (75.00)	0	0

Percentages were computed on subjects referring each specific intensity of symptom at T0.

Evaluable population at T0 consisted of all enrolled subjects fulfilling inclusion/exclusion criteria and performing the T0 evaluation.

Evaluable population at T1 consisted of a subset of the evaluable population at T0 including subjects with the T1 evaluation.

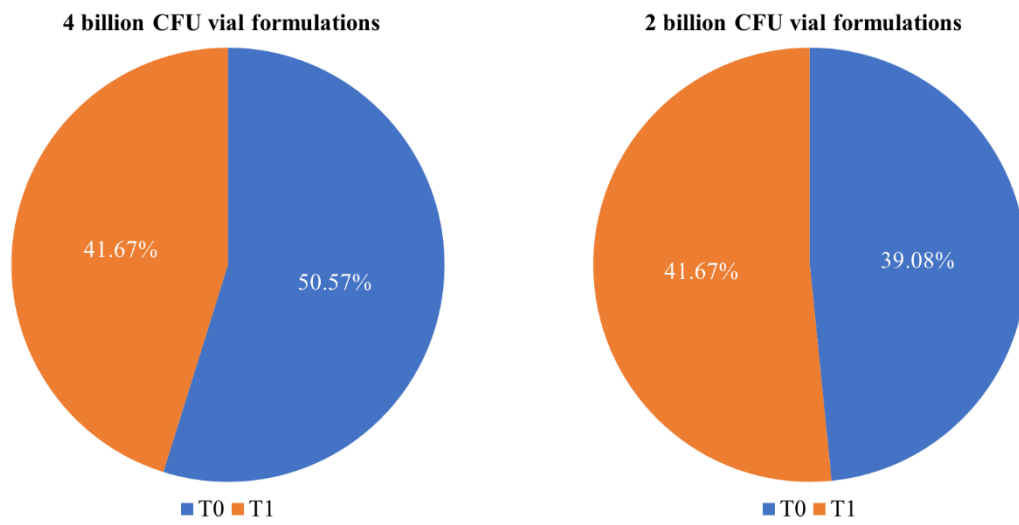
Supplementary Table 3. Summary of quality of life, evaluable population at T1

	At T0, n (%) [95% CI]	At T1, n (%) [95% CI]
	(N=261)	(N=261)
Mood	261	261
Very much	23 (8.81) [5.19–14.57]	2 (0.77) [0.14–3.95]
A lot	92 (35.25) [27.92–43.34]	4 (1.53) [0.45–5.14]
Moderately	76 (29.12) [22.32–37.00]	22 (8.43) [4.90–14.11]
Lightly	51 (19.54) [13.89–26.77]	59 (22.61) [16.54–30.10]
Not at all	19 (7.28) [4.06–12.72]	174 (66.67) [58.62–73.84]
Daily activities	261	261
Very much	23 (8.81) [5.19–14.57]	1 (0.38) [0.04–3.30]
A lot	80 (30.65) [23.71–38.60]	5 (1.92) [0.63–5.70]
Moderately	73 (27.97) [21.28–35.80]	17 (6.51) [3.51–11.78]
Lightly	61 (23.37) [17.21–30.92]	53 (20.31) [14.55–27.61]
Not at all	24 (9.20) [5.48–15.03]	185 (70.88) [63.00–77.68]
Job	261	261
Very much	17 (6.51) [3.51–11.78]	
A lot	60 (22.99) [16.87–30.51]	3 (1.15) [0.28–4.55]
Moderately	45 (17.24) [11.95–24.24]	11 (4.21) [1.95–8.85]
Lightly	52 (19.92) [14.22–27.19]	40 (15.33) [10.35–22.10]
Not at all	34 (13.03) [8.48–19.50]	155 (59.39) [51.22–67.06]
Not applicable	53 (20.31) [14.55–27.61]	52 (19.92) [14.22–27.19]
Sleep	261	261
Very much	13 (4.98) [2.45–9.85]	1 (0.38) [0.04–3.30]
A lot	50 (19.16) [13.57–26.35]	2 (0.77) [0.14–3.95]
Moderately	52 (19.92) [14.22–27.19]	9 (3.45) [1.48–7.84]
Lightly	60 (22.99) [16.87–30.51]	32 (12.26) [7.86–18.62]
Not at all	86 (32.95) [25.80–40.98]	217 (83.14) [76.19–88.38]
Diet	261	261
Very much	39 (14.94) [10.04–21.67]	1 (0.38) [0.04–3.30]
A lot	78 (29.89) [23.01–37.80]	7 (2.68) [1.03–6.79]
Moderately	71 (27.20) [20.60–34.99]	36 (13.79) [9.10–20.37]
Lightly	45 (17.24) [11.95–24.24]	78 (29.89) [23.01–37.80]
Not at all	28 (10.73) [6.66–16.84]	139 (53.26) [45.13–61.21]

CI, confidence interval; . T0, start of the study; T1, end of the study

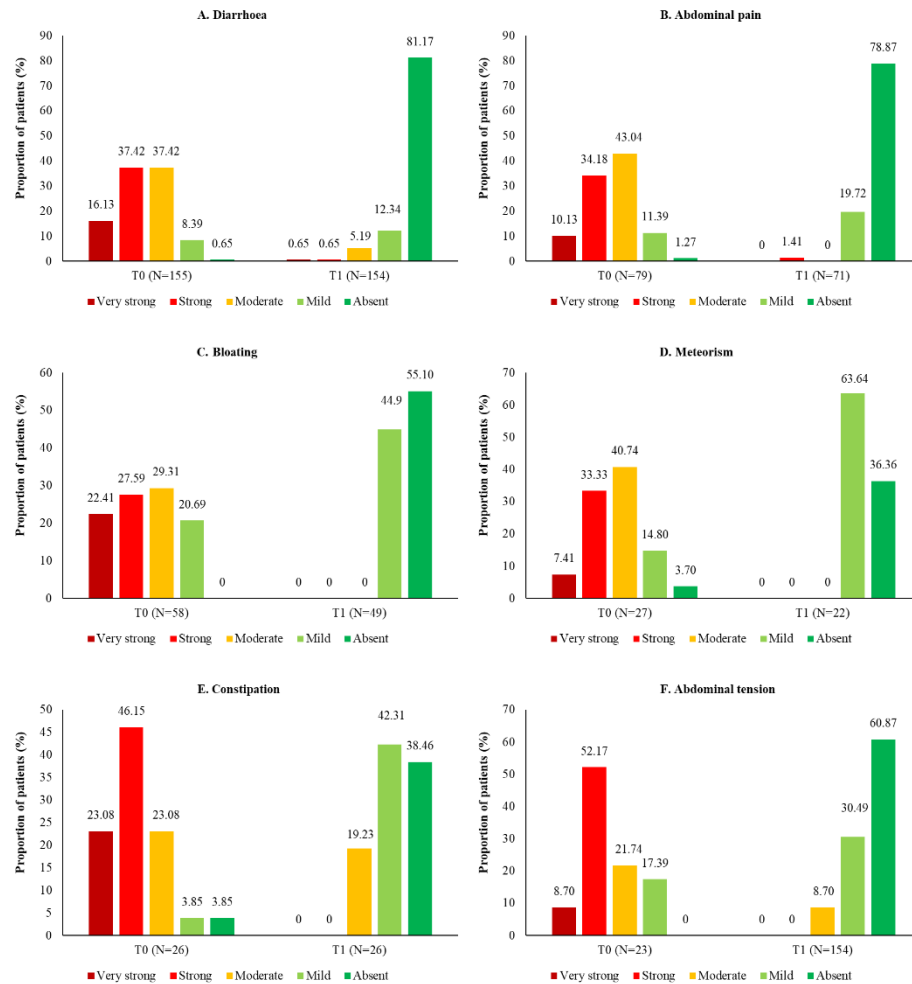
Percentages were computed on subjects belonging to the evaluable population at T1. 95% simultaneous CI was computed applying the Goodman's method for multinomial proportions.

Supplementary Figure 1. Choice of formulations; evaluable population at T0 and T1



CFU, colony forming unit; T0, start of the study; T1, end of the study

Supplementary Figure 2. Summary of intensity of symptoms; evaluable population at T1



T0, start of the study; T1, end of the study

Percentages were computed on subjects belonging to the evaluable population at T0 and T1.

Evaluable population at T0 consisted of all enrolled subjects who fulfilled inclusion/exclusion criteria and performing the T0 evaluation. Evaluable population at T1 consisted of a subset of the evaluable population at T0 including subjects with the T1 evaluation.