

An SMS guided basal insulin titration in people with type 2 diabetes new on Insulin

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Supplementary Table 1 Diabetes Distress Scale (DDS)

Parameter	Statistic	Baseline Total N=29	Visit 4 Total N=29	Change Total N=29
Composite score	N (missing)	26 (3)	25 (4)	24 (5)
	Mean (SD)	1.88 (0.82)	1.56 (0.50)	-0.22 (0.50)
	[CI]	[1.55 – 2.21]	[1.35 – 1.76]	[-0.43 - -0.01]
	Median	1.65	1.35	-0.18
	Q1 – Q3	1.24 – 2.18	1.18 – 1.82	-0.32 – 0.06
	Min - Max	1.00 – 4.18	1.00 – 2.82	-1.47 – 0.82
Emotional burden score	N (missing)	28 (1)	27 (2)	27 (2)
	Mean (SD)	2.25 (1.22)	2.00 (1.01)	-0.24 (0.61)
	[CI]	[1.78 – 2.72]	[1.60 – 2.40]	[-0.43 – 0.00]
	Median	2.20	1.80	-0.20
	Q1 – Q3	1.40 – 2.70	1.20 – 2.80	-0.40 – 0.00
	Min - Max	1.0 – 6.0	1.0 – 4.6	-1.6 – 1.2
Physician-related distress score	N (missing)	27 (2)	26 (3)	25 (4)
	Mean (SD)	1.34 (0.96)	1.04 (0.09)	-0.16 (0.50)
	[CI]	[0.96 - 1.72]	[1.00 - 1.08]	[-0.37 - 0.05]
	Median	1.00	1.00	0.00
	Q1 – Q3	1.00 - 1.25	1.00 - 1.00	0.00 - 0.00
	Min - Max	1.00 - 5.50	1.00 - 1.25	-2.25 - 0.25
Regimen-related distress score	N (missing)	26 (3)	27 (2)	25 (4)
	Mean (SD)	2.32 (1.28)	1.83 (0.86)	-0.55 (1.30)
	[CI]	[1.80 – 2.83]	[1.49 – 2.17]	[-1.09 - -0.01]
	Median	2.00	1.60	-0.20
	Q1 – Q3	1.40 – 2.80	1.00 – 2.20	-0.80 – 0.00
	Min - Max	1.0 – 5.6	1.0 – 4.6	-4.0 – 1.6
Interpersonal distress score	N (missing)	28 (1)	26 (3)	26 (3)
	Mean (SD)	1.76 (1.11)	1.41 (0.60)	-0.18 (0.59)
	[CI]	[1.33 – 2.19]	[1.17 – 1.65]	[-0.42 – 0.06]
	Median	1.33	1.00	0.00
	Q1 – Q3	1.00 – 2.00	1.00 – 1.67	-0.33 – 0.00
	Min - Max	1.00 – 6.00	1.00 – 3.00	-2.33 – 1.00

Supplementary Table 2 Hospital Anxiety and Depression Scale (HADS)

Parameter	Statistic	Baseline Total N=29	Visit 4 Total N=29	Change Total N=29
Anxiety score	N (missing)	27 (2)	28 (1)	27 (2)
	Mean (SD)	5.9 (3.8)	5.0 (4.3)	-0.7 (2.6)
	[CI]	[4.4 – 7.4]	[3.4 – 6.7]	[-1.7 – 0.3]
	Median	6.0	4.0	0.0
	Q1 – Q3	2.0 – 10.0	2.0 – 8.5	-2.0 – 1.0
	Min - Max	0 – 12	0 – 16	-7 – 5
Depression score	N (missing)	28 (1)	28 (1)	28 (1)
	Mean (SD)	5.2 (4.1)	5.1 (4.6)	-0.1 (3.4)
	[CI]	[3.7 – 6.8]	[3.3 – 6.9]	[-1.5 – 1.2]
	Median	4.0	4.0	0.0
	Q1 – Q3	2.0 – 7.5	1.0 – 8.0	-2.5 – 2.0

Min – Max	0 – 16	0 – 15	-8 - 9
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Supplementary Table 3 Diabetes Medication System Rating Questionnaire (DMSRQ)

Parameter	Statistic	Baseline Total N=29	Visit 4 Total N=29	Change Total N=29
Convenience satisfaction (two items)	N (missing)	27 (2)	25 (4)	24 (5)
	Mean (SD)	77.81 (26.18)	76.00 (26.87)	-2.12 (27.49)
	[CI]	[67.46 - 88.17]	[64.91 - 87.09]	[-13.73 - 9.48]
	Median	83.50	83.50	0.00
	Q1 – Q3	66.50 – 100.00	50.00 – 100.00	-25.00 – 16.50
	Min - Max	0.0 – 100.00	33.0 – 100.0	-50.0 – 33.5
Negative events (six items)	N (missing)	26 (3)	25 (4)	23 (6)
	Mean (SD)	15.22 (17.04)	15.00 (16.00)	2.36 (15.83)
	[CI]	[8.34 – 22.11]	[8.39 – 21.61]	[-4.49 – 9.20]
	Median	8.33	12.50	0.00
	Q1 – Q3	0.00 – 25.00	0.00 – 20.83	0.00 – 12.50
	Min - Max	0.00 - 54.17	0.00 – 54.17	-33.33 – 33.33
Interference (one item)	N (missing)	27 (2)	19 (10)	18 (11)
	Mean (SD)	23.5 (39.1)	24.6 (33.1)	-5.6 (17.1)
	[CI]	[8.0 – 38.9]	[8.6 – 40.5]	[-14.0 – 2.9]
	Median	0.0	0.0	0.0
	Q1 – Q3	0.0 – 67.0	0.0 – 67.0	0.0 – 0.0
	Min - Max	0 – 100	0 – 100	-34 – 33
SMBG burden (one item)	N (missing)	25 (4)	24 (5)	22 (7)
	Mean (SD)	24.0 (32.7)	4.2 (14.1)	-18.2 (29.1)
	[CI]	[10.5 – 37.5]	[-1.8 – 10.1]	[-31.1 - -5.2]
	Median	0.0	0.0	0.0
	Q1 – Q3	0.0 – 50.0	0.0 – 0.0	-50.0 – 0.0
	Min - Max	0 – 100	0 – 50	-100 - 0
Efficacy (three items)	N (missing)	23 (6)	22 (7)	20 (9)
	Mean (SD)	43.12 (22.42)	59.85 (24.31)	15.21 (30.39)
	[CI]	[33.42 – 52.81]	[49.07 – 70.63]	[0.99 – 29.43]
	Median	41.67	62.50	16.67
	Q1 – Q3	25.00 – 58.33	41.67 – 75.00	4.17 – 33.33
	Min - Max	0.00 – 100.00	8.33 – 100.00	-83.33 – 50.00
Social burden (one item)	N (missing)	28 (1)	27 (2)	27 (2)
	Mean (SD)	9.8 (18.4)	3.7 (11.4)	-6.5 (19.1)
	[CI]	[2.7 – 17.0]	[-0.8 – 8.2]	[-14.0 – 1.1]
	Median	0.0	0.0	0.0
	Q1 – Q3	0.0 – 12.5	0.0 – 0.0	0.0 – 0.0
	Min - Max	0 – 50	0 – 50	-50 – 25
Psychological well-being (two items)	N (missing)	28 (1)	27 (2)	27 (2)
	Mean (SD)	51.79 (19.75)	54.63 (14.36)	2.78 (18.13)
	[CI]	[44.13 – 59.45]	[48.95 – 60.31]	[-4.39 – 9.95]
	Median	50.00	62.50	0.00
	Q1 – Q3	50.00 – 62.50	50.00 – 62.50	-12.50 – 12.50
	Min - Max	0.0 – 75.00	0.0 – 75.0	-25.0 – 50.0
Treatment satisfaction (three items)	N (missing)	28 (1)	26 (3)	26 (3)
	Mean (SD)	61.94 (14.41)	67.57 (11.67)	5.57 (18.61)

	[CI]	[56.35 – 67.53]	[62.86 – 72.28]	[-1.95 – 13.09]
	Median	66.67	66.83	11.00
	Q1 – Q3	55.67 – 67.00	66.50 – 77.67	-11.00 – 22.00
	Min - Max	22.00 – 89.00	44.33 – 100.00	-33.33 – 44.67
Treatment preference (one item)	N (missing)	23 (6)	24 (5)	20 (9)
	Mean (SD)	62.0 (23.7)	75.0 (27.6)	12.5 (17.2)
	[CI]	[51.7 – 72.2]	[63.4 – 86.6]	[4.4 – 20.6]
	Median	50.0	75.0	0.0
	Q1 – Q3	50.0 – 75.0	50.0 – 100.0	0.0 – 25.0
	Min - Max	0 – 100	0 – 100	0 – 50
	N (missing)	28 (1)	28 (1)	28 (1)
Composite score (20 items)	Mean (SD)	39.85 (8.60)	42.52 (8.33)	2.67 (12.26)
	[CI]	[36.51 – 43.18]	[39.29 – 45.75]	[-2.0 – 7.42]
	Median	39.91	42.90	3.69
	Q1 – Q3	33.83 – 46.32	35.69 – 46.58	-6.77 – 11.54
	Min - Max	23.33 – 59.33	28.40 – 66.67	-25.40 – 30.82

Supplementary Table 4 Adherence to the SMS service: Time to reaction and percentage of answered requests (for all requests, for FBG and Insulin confirmation), FBG value correctness and compliance to insulin advice

Parameter	N (missing)	Mean (SD)	Median	Q1–Q4	Min - Max
Median time to patient reaction in minutes	29 (0)	00:06 (00:06)	00:03	00:02 - 00:08	00:01 – 00:20
Median time to patient reaction in minutes (FBG)	29 (0)	00:06 (00:06)	00:03	00:01 – 00:09	00:00 – 00:50
Median time to patient reaction in minutes (Insulin)	29 (0)	00:06 (00:06)	00:04	00:02 – 00:08	00:01 – 00:23
SMS with patient reaction in %	29 (0)	97.17 (4.85)	100.00	96.89 – 100.00	83.33 – 100.00
SMS with patient reaction in % (FBG)	29 (0)	96.37 (7.30)	100.00	96.55 - 100.00	68.57 - 100.00
SMS with patient reaction in % (insulin)	29 (0)	87.02 (4.85)	100.00	98.75 - 100.00	72.64 - 100.00
Correctness of FBG values in %	29 (0)	97.17 (4.85)	93.83	84.76 – 98.57	17.46 – 100.0
Compliance to advised insulin does in %	29 (0)	97.17 (4.85)	98.75	90.45 – 100.0	54.84 – 100.0

Supplementary Table 5 SMS service healthcare professional (HCP) satisfaction questionnaire in the target group: physician

Item	Parameter	Level	Total N=9 N (%) [CI]
To what extent do you agree with the following statements? The RocheDiabetes InsulinStart Service... resulted in a simplification of the workflow for me (e.g. through the presettings of the titration algorithms in the AccuChek Smart Pix).		(fully) Agree	5 (55.6 %) [26.7, 81.1]
		Partially agree	2 (22.2 %) [6.3, 54.7]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]
		(fully) Agree	6 (66.7 %) [35.4, 87.9]

	...resulted in time savings for me (e.g. as less contact with the patient was necessary during the titration).	Partially agree	1 (11.1 %) [2.0, 43.5]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]
	..helped patients presumably reaching their target values faster (compared to their experiences outside the GetFit Study).	(fully) Agree	1 (11.1 %) [2.0, 43.5]
		Partially agree	6 (66.7 %) [35.4, 87.9]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]
	... helped patients achieving a safe, hypoglycemia-free titration.	(fully) Agree	5 (55.6 %) [26.7, 81.1]
		Partially agree	2 (22.2 %) [6.3, 54.7]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]
	...helped patients achieving an effective start to insulin therapy.	(fully) Agree	4 (44.4 %) [18.9, 73.3]
		Partially agree	3 (33.3 %) [12.1, 64.6]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]
Effort	In your opinion, how much effort did it take to explain the RocheDiabetes InsulinStart Service to the patient and to start the service (excluding documentation steps and other training required for the study)?	(fully) Agree	1 (11.1 %) [2.0, 43.5]
		Partially agree	6 (66.7 %) [35.4, 87.9]
		Disagree	1 (11.1 %) [2.0, 43.5]
		No Opinion	0 (0.0 %) [0.0, 29.9]
		Missing	1 (11.1 %) [2.0, 43.5]

Supplementary Table 6 12 Item Short Form Health Survey (SF-12)

Parameter	Statistic	Baseline Total N=29	Visit 4 Total N=29	Change Total N=29
Mental health composite score	N (missing)	28 (1)	25 (4)	25 (4)
	Mean (SD)	45.13 (12.32)	47.28 (13.83)	1.96 (8.30)
	[CI]	[40.35 – 49.90]	[41.57 – 52.99]	[-1.46 – 5.39]
	Median	47.54	51.34	1.28
	Q1 – Q3	33.62 – 55.82	36.83 – 59.53	-1.52 – 5.21
	Min - Max	24.04 – 65.66	17.70 – 65.50	-18.88 – 17.79
Physical health composite score	N (missing)	28 (1)	25 (4)	25 (4)
	Mean (SD)	40.34 (11.71)	42.50 (13.44)	1.17 (8.80)
	[CI]	[35.80 – 44.88]	[36.96 – 48.05]	[-2.47 – 4.80]
	Median	40.86	44.22	1.24
	Q1 – Q3	30.62 – 51.91	31.78 – 54.30	-3.44 – 3.80
	Min - Max	20.26 – 58.10	12.20 – 60.07	-15.74 – 29.09