

Supplementary material

Supplementary Table 1 Marginal homogeneity analysis of Liver Frailty Index (LFI) classifications across study visits. The table presents the distribution of patients classified as robust, pre-frail, or frail at each study visit (V1, V2, and V3), and evaluates changes over time using the marginal homogeneity test.

LFI – Visit 1	LFI – Visit 2			P-value
	Robust	Pre-frail	Frail	
Robust	0	0	0	0,317
Pre-frail 43	2	23	1	
Frail 14	0	2	5	
LFI – Visit 1	LFI – Visit 3			P-value
	Robust	Pre-frail	Frail	
Robust	0	0	0	0,206
Pre-frail 43	4	12	3	
Frail	0	2	4	
LFI – Visit 2	LFI – Visit 3			P-value
	Robust	Pre-frail	Frail	
Robust	2	0	0	0,655
Pre-frail 25	2	11	2	
Frail	0	0	3	

Marginal homogeneity test (significance levels of 5%). LFI: Liver Frailty Index.

Supplementary Table 2 Generalised additive models for location, scale, and shape (GAMLSS) applied to heart rate and oxygen saturation variables during the four-minute step test. The table presents results of GAMLSS mixed model analyses evaluating heart rate and SpO₂ at baseline, during, and two minutes after the 4-minute step test across visits and adherence groups.

Freq. at baseline (Gamma Dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,341	4,283	4,399	-
Non-Compliant Groups	Ref.			
Aderentes Group	0,061	-0,045	0,167	0,263
Visit 1	Ref.			
Visit 2	-0,032	-0,140	0,077	0,570
Visit 3	0,010	-0,108	0,128	0,865
Non-Adherent Group and Visit 1	Ref.			
Group Adherents and Visit 2	0,021	-0,151	0,193	0,811
Group Adherents and Visit 3	0,000	-0,183	0,183	0,999
Freq. cardiac test no 4°min. (Normal dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	92,431	87,337	97,524	-
Non-Compliant Groups	Ref.			
Adherents Group	10,144	1,892	18,396	0,018
Heart rate 2 min. after the end of the test (Gamma Dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,392	4,347	4,438	-
Non-Adherent Group	Ref.			
Adherent Group	0,092	0,018	0,165	0,016
SpO2 test start (Generalized gamma dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,591	4,585	4,597	-
Non-Adherent groups	Ref.			
Adherent Group	0,000	-0,007	0,006	0,902
Visit 1	Ref.			
Visit 2	-0,002	-0,008	0,004	0,550
Visit 3	-0,004	-0,010	0,003	0,277
Non-Adherent group and Visit 1	Ref.			
Group Adherent and Visit 2	-0,005	-0,015	0,006	0,398
Group Adherent and Visit 3	0,008	-0,002	0,019	0,134
SpO2 4min. test (Generalized Normal Dist. - SHASH)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,546	4,531	4,562	-
Non-Adherent group	Ref.			
Adherent Group	0,029	0,000	0,057	0,052
Visit 1	Ref.			
Visit 2	0,029	-0,001	0,058	0,057
Visit 3	0,017	-0,014	0,049	0,285
Non-Adherent Group and Visit 1	Ref.			

Group Adherent and Visit 2	-0,038	-0,084	0,008	0,108
Group Adherent and Visit 3	-0,035	-0,084	0,014	0,161
SpO2 2min. after the end of the test (Weibull Dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,588	4,531	4,562	-
Non-Adherent group	Ref.			
Adherent Groups	-0,002	0,000	0,057	0,583
Visit 1	Ref.			
Visit 2	0,004	-0,001	0,058	0,202
Visit 3	-0,003	-0,014	0,049	0,336
Non-Adherent Group and Visit 1	Ref.			
Group Adherent and Visit 2	-0,006	-0,084	0,008	0,185
Group Adherent and Visit 3	0,008	-0,084	0,014	0,125

Wald test (significance levels of 5%). GAMLSS mixed model.

Supplementary Table 3 Results of GAMLSS models for quality of life – The Medical Outcomes Study 36-Item Short Form Health Survey

SF36 Functional Capacity (Dist. Range)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	3,823	3,714	3,932	-
Non-Adherent Group	Ref.			
Adherent Group	0,192	0,016	0,369	0,035
SF36 dor (Dist. normal)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	52,600	45,638	59,562	
Visit 1	Ref.			
Visit 2	13,283	1,565	25,001	0,028
Visit 3	3,940	-8,513	16,393	0,537
SF36 general health status (Generalized gamma dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	3,888	3,689	4,087	-
Non-Adherent Group	Ref.			
Adherent Group	0,045	-0,153	0,244	0,656
Visit 1	Ref.			
Visit 2	-0,033	-0,229	0,164	0,745
Visit 3	0,043	-0,176	0,263	0,702
Non-Adherent Group and Visit 1	Ref.			
Adherent Group and Visit 2	0,066	-0,239	0,370	0,673
Adherent Group and Visit 3	0,079	-0,245	0,403	0,633
SF36 vitality (Generalized gamma dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,074	3,947	4,201	-
Non-Adherent Group	Ref.			
Adherent Group	0,178	0,073	0,283	0,001
SF36 Social Aspects (Normal Dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	48,332	41,183	55,480	-
Non-Adherent Group	Ref.			
Adherent Group	11,985	2,258	21,712	0,018
Visit 1	Ref.			
Visit 2	11,909	0,727	23,090	0,039
Visit 3	6,247	-5,639	18,134	0,305
SF36 mental health (Generalized gamma dist.)	Coef.	IC 95%		P-value
		Inf.	U.	
<i>Intercept</i>	4,259	4,166	4,351	-
Non-Adherent Group	Ref.			
Adherent Group	0,111	0,017	0,205	0,023

Wald test (significance levels of 5%). GAMLSS mixed model. Abbreviations: SF-36 - Medical Outcomes Study 36-Item Short Form Health Survey questionnaire.