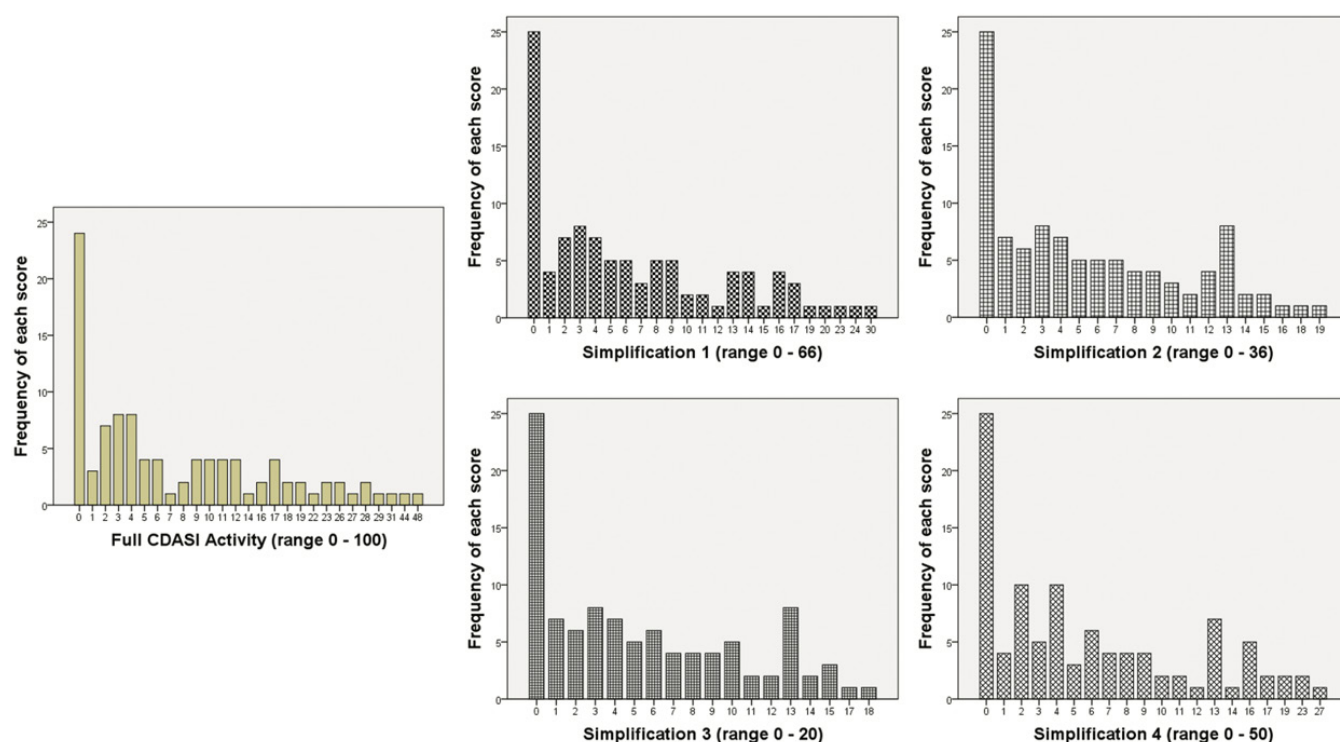


Supplementary Table S1. Inter-rater reliability of Cutaneous Dermatomyositis Disease Area and Severity Index (CDASI) simplifications between two independent assessors.

CDASI simplification	Spearman correlation coefficient between 2 assessors	ICC (95%CI) between log 10 transformation of 2 assessors' scores
Full CDASI	0.930*	0.91 (0.84 – 0.95)
sCDASI-1: simplified erythema score to 0 or 1, with other parameters remaining the same.	0.955*	0.92 (0.87 – 0.96)
sCDASI-2: simplified erythema score to 0 or 1, exclusion of scale scoring.	0.960*	0.94 (0.90 – 0.97)
sCDASI-3: simplified erythema score to 0 or 1, exclusion of both scale, and ulcer scoring.	0.958*	0.94 (0.90 – 0.97)
sCDASI-4: simplification of all parameters (erythema, scale, erosion/ulceration, periungual change, alopecia) to 0 or 1.	0.950*	0.93 (0.86 – 0.96)

CDASI: Cutaneous Dermatomyositis Disease Area and Severity Index; CI: confidence interval; ICC: intraclass correlation coefficient; sCDASI: simplified CDASI score.

* p -value <0.001.

**Supplementary Fig. S1.** Distributions of the total scores for the full Cutaneous Dermatomyositis Disease Area and Severity Index (CDASI) and each simplification (Simplifications 1-4).

Simplification 1: simplified erythema score from absent, pink, red, dark red (0-3) to erythema absent/present (0-1) with no change in other parameters.

Simplification 2: simplified erythema score and exclusion of scale scoring.

Simplification 3: simplified erythema score, exclusion of both scale and ulcer scoring.

Simplification 4: simplification of all parameters (erythema, scales, erosion/ulceration, periungual change, alopecia) to absent/present (0-1).

CDASI: Cutaneous Dermatomyositis Disease Area and Severity Index.

Supplementary Table S2. Correlation of absolute change of scores over 2 visits between Cutaneous Dermatomyositis Disease Area and Severity Index (CDASI) simplifications with full CDASI and other parameters.

CDASI simplification	Spearman correlation coefficient of absolute change in scores over two visits							
	MDAAT Cutaneous VAS	Full CDASI	Skindex-16	Itch Scale	PtGA	RAS	RAM	3D camera %BSA
Full CDASI	0.761* P < 0.001 n = 38	N/A	0.531* P < 0.001 n = 44	0.055 P = 0.721 n = 44	0.571* P < 0.001 n = 40	0.259 P = 0.107 n = 40	0.650* P < 0.001 n = 32	0.564* P < 0.001 n = 42
sCDASI-1 ¹	0.675* P < 0.001 n = 38	0.865* P < 0.001 n = 46	0.655* P < 0.001 n = 44	0.202 P = 0.190 n = 44	0.572* P < 0.001 n = 40	0.372* P = 0.018 n = 40	0.607* P < 0.001 n = 32	0.503* P = 0.001 n = 42
sCDASI-2 ²	0.575* P < 0.001 n = 38	0.824* P < 0.001 n = 46	0.538* P < 0.001 n = 44	0.249 P = 0.103 n = 44	0.531* P < 0.001 n = 40	0.401* P = 0.010 n = 40	0.585* P < 0.001 n = 32	0.466* P = 0.002 n = 42
sCDASI-3 ³	0.584* P < 0.001 n = 38	0.807* P < 0.001 n = 46	0.487* P < 0.001 n = 44	0.235 P = 0.125 n = 44	0.519* P < 0.001 n = 40	0.429* P = 0.006 n = 40	0.654* P < 0.001 n = 32	0.460* P = 0.002 n = 42
sCDASI-4 ⁴	0.677* P < 0.001 n = 38	0.873* P < 0.001 n = 46	0.632* P < 0.001 n = 44	0.202 P = 0.187 n = 44	0.571* P < 0.001 n = 40	0.419* P = 0.007 n = 40	0.631* P < 0.001 n = 32	0.456* P = 0.002 n = 42

CDASI: Cutaneous Dermatomyositis Disease Area and Severity Index; MDAAT Cutaneous VAS: cutaneous visual analogue scale of the Myositis Disease Activity Assessment Tool; PtGA: patient global activity; RAS: patient dermatomyositis rash severity; RAM: patient dermatomyositis rash mapping; sCDASI: simplified CDASI score; 3D camera %BSA: percentage of body surface area involvement of rashes calculated from 3D camera images

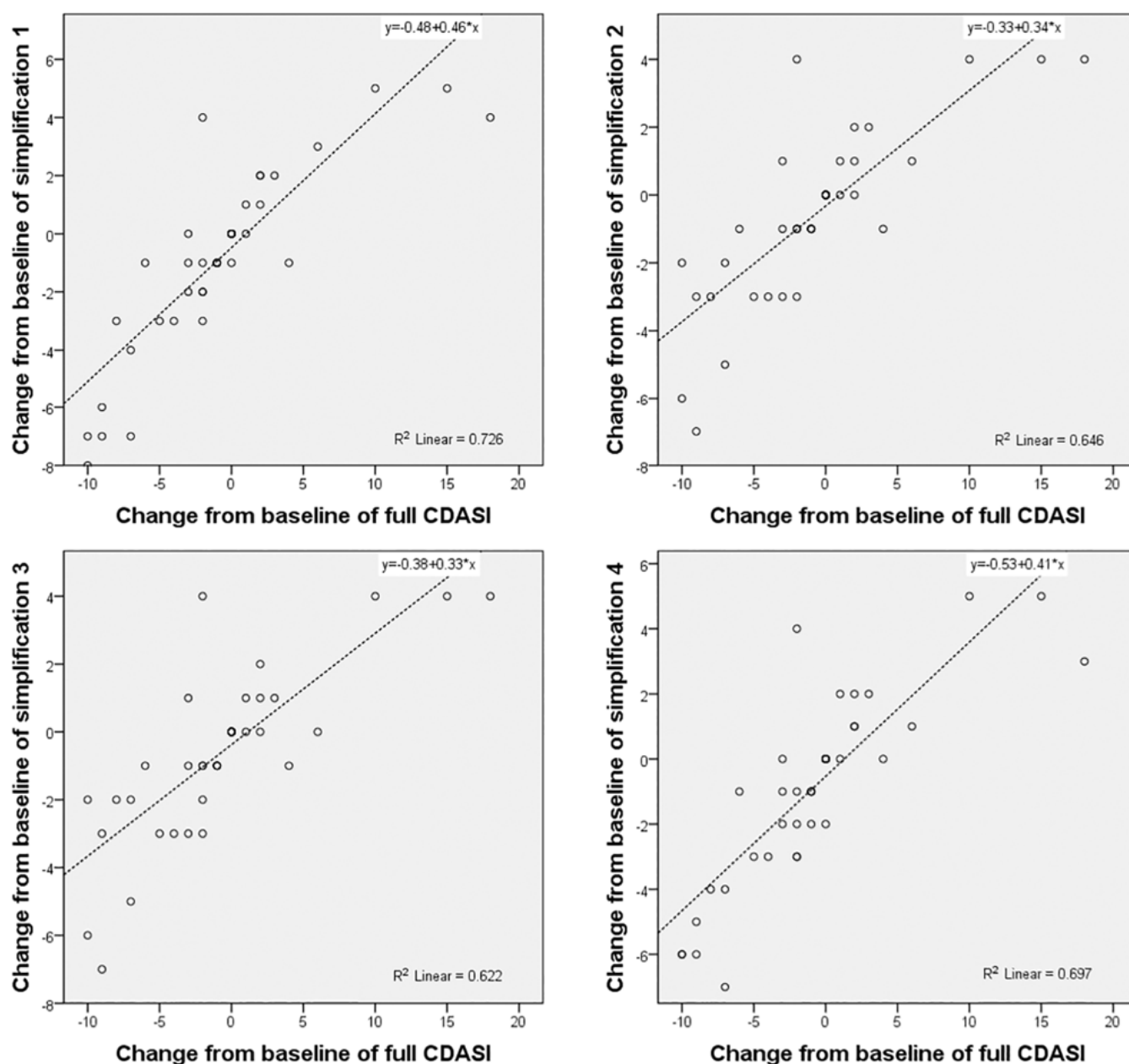
*p-value < 0.001

¹**Simplification 1:** simplified erythema score to 0 or 1, with other parameters remaining the same.

²**Simplification 2:** simplified erythema score to 0 or 1, exclusion of scale scoring.

³**Simplification 3:** simplified erythema score to 0 or 1, exclusion of both scale, and ulcer scoring.

⁴**Simplification 4:** simplification of all parameters (erythema, scale, erosion/ulceration, periungual change, alopecia) to 0 or 1.



Supplementary Fig. S2. Linear regression analyses of responsiveness for Cutaneous Dermatomyositis Disease Area and Severity Index (CDASI) simplifications (Simplifications 1-4) compared to the full CDASI score.

Each panel illustrates the relationship between change-from-baseline scores for each simplification and the corresponding change in full CDASI scores. Regression lines, equations, and coefficients of determination (R^2) are shown. R^2 values ranged from 0.622 to 0.726, indicating moderate to strong responsiveness of the simplifications in detecting changes in disease activity over time.

Simplification 1: simplified erythema score to 0 or 1, with other parameters remaining the same.

Simplification 2: simplified erythema score to 0 or 1, exclusion of scale scoring.

Simplification 3: simplified erythema score to 0 or 1, exclusion of both scale, and ulcer scoring.

Simplification 4: simplification of all parameters (erythema, scale, erosion/ulceration, periungual change, alopecia) to 0 or 1.