Development and preliminary validation of the Sickness Questionnaire

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Background

The lack of questionnaires to measure subjective aspects of the sickness response made us develop the Sickness Questionnaire (SicknessQ). The objective of the present investigation was to test its internal consistency, criteria validity, and sensitivity to capture the sickness response in an experimental setting.

Methods

An initial pool of items was developed based on previous research and was subsequently tested in two populations: primary care patients (study 1) and healthy persons with experimentally induced sickness behavior (study 2).

Conclusion

In all, the new 11-item SicknessQ show good psychometric properties and is highly sensitive to a mild systemic inflammation. Further studies are planned to test its usefulness and prognostic value in clinical settings.

Study 1

The statistical properties of SicknessQ was assessed in 172 men and women primary care patients with acute complaints and involved three steps 1) principal component analyses to reduce the number of items and to identify latent factor structures, 2) tests of internal consistencies of subscales, and 3) hierarchical regression analyses to test criteria validity of the subscales. Principal components analysis suggested a 3-factor solution with a total of 11 items measuring fatigue (5 items), pain (4 items) and negative affect (2 items), see table.

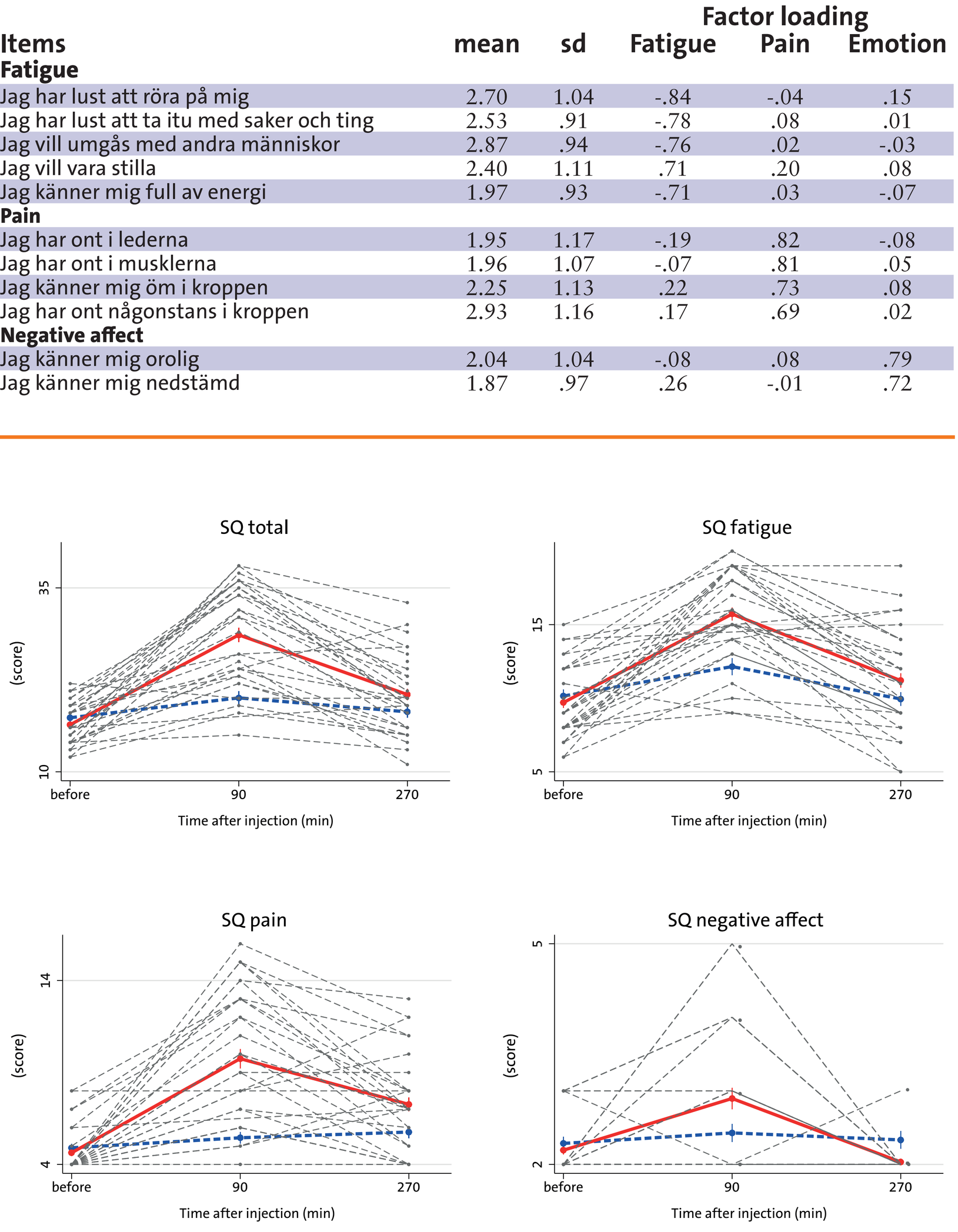
Table

Descriptive data and rotated factor loadings (oblique rotation) for the final 11 items in the Sickness Questionnaire (SQ) (n=165).

Items	mean	sd	Factor loading Fatigue	Pain	Emotion
Fatigue					
Jag har lust att röra på mig	2.70	1.04	-.84	-.04	.15
Jag har lust att ta itu med saker och ting	2.53	.91	-.78	.08	.01
Jag vill umgås med andra människor	2.87	.94	-.76	.02	-.03
Jag vill vara stilla	2.40	1.11	.71	.20	.08
Jag känner mig full av energi	1.97	.93	-.71	.03	-.07
Pain					
Jag har ont i lederna	1.95	1.17	-.19	.82	-.08
Jag har ont i musklerna	1.96	1.07	-.07	.81	.05
Jag känner mig öm i kroppen	2.25	1.13	.22	.73	.08
Jag har ont någonstans i kroppen	2.93	1.16	.17	.69	.02
Negative affect					
Jag känner mig orolig	2.04	1.04	-.08	.08	.79
Jag känner mig nedstämd	1.87	.97	.26	-.01	.72

Study 2

Sensitivity to change was tested in a double blind experimental study in which 52 healthy men and women were injected with either endotoxin (LPS, 0.6 ng/kg, n=31) to provoke sickness behavior or placebo (n=21). The total scale as well as each of the three separate factors were significantly changed 90 minutes after endotoxin injection as compared to baseline (p's<.01), se figure.



Red=endotoxin group. Blue=placebo group. Individual plots for endotoxin group only.

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