Consensus Dutch Health Assessment Questionnaire

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The questionnaire most frequently used worldwide to measure physical disability in rheumatic diseases is the Stanford Health Assessment Questionnaire (HAQ) Disability Index.[1] In 2001, the Nijmegen group published a quite literal Dutch translation of the questionnaire[2] to replace their version of 1990.[3] Two other translations exist: from Leiden (1984)[4] and Utrecht (Vragenlijst Dagelijks Functioneren, 1990).[5] All translations have been validated to some extent and have seen extensive use, coexisting in parallel without any major problems.

Unfortunately, the 2001 Dutch HAQ did not replace the other versions. This is not unique to The Netherlands and may be inconsequential,[6] but using one common version would be better. MB invited representatives from Utrecht, Nijmegen and Leiden to formulate a consensus instrument that would retain the most desirable properties of each version, without requiring further validation.

We started with the Nijmegen 2001 version as it is the most recent and most closely in agreement with the original instrument. MB listed the contents and differences between the three versions and suggested compromise solutions. The other team members modified these in several e-mail rounds. A few remaining issues were resolved in a face-to-face meeting.

Major differences include deleted and extra items, the handling and number of aids and one item that fails to capture the original item in all versions (table 1). Minor differences include choice of words, headings (dimensions) and instructions.

We decided to delete the extra items in the Leiden and Utrecht versions and follow the original questionnaire in the handling of aids. The problematic item is in the dimension ''Reach'', original wording:

> Are you able to: – Reach and get down a 5-pound object (such as a bag of sugar) from just above your head?

The problem is the metric system followed in mainland Europe: 5 pounds US translates to 2.25 kg, not a standard packaging weight for sugar in Europe. Thus, Leiden and Nijmegen reduced the weight to 1 kg, making the task easier, and Utrecht chose a 2.5 kg object such as a heavy (cooking) pan, an object dissimilar to the sugar bag (eg, hard, has handles). In the consensus HAQ, we chose an object resembling a bag of sugar, but locally available in a 2.5-kg package: potatoes or rice. Thus, the item becomes:

> Are you able to: – Reach and get down an object of about 2.5 kg (such as a bag of potatoes or rice) from just above your head?

Issues beyond translation remain and need to be resolved at the international level. These include the scoring method for the use of aids or devices (aids and devices not formally linked to a specific dimension of the HAQ) and the handling of missing data.

To implement the consensus version in research and clinical practice in The Netherlands, it will be published in the *Netherlands Journal for Rheumatology*. Moreover, all rheumatologists will receive an announcement of its publication (freely downloadable) on the website of the Dutch Society for Rheumatology: http://www.nvr.nl/meetinstrumenten

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Table 1 Overview of differences between the Dutch consensus Health Assessment Questionnaire and other versions

	Consensus	Nijmegen	Leiden	Utrecht
Layout			After every item, choice options in words and a tick box for aids or help from another person	
Introduction	Minor changes			
Wording of choices	Minor changes			
Number of items	20	20	24	20
Changes in items/dimensions	Object of 2.5 kg (see results)		Items added:	Hygiene item (bath) deleted; grip item (pencil) added
			Dressing (clothes/closets); hygiene (faucets repeated); reach (comb hair); activities (use public transportation)	
Changes in aids	Better wording		one hygiene aid deleted	

REFERENCES

1 **Fries JF**, Spitz PW, Young DY. The dimensions of health outcomes: the health assessment questionnaire, disability and pain scales. *J Rheumatol* 1982;**9**:789–93.
2 **Zandbelt MM**, Welsing PM, van Gestel AM, van Riel PL. Health Assessment Questionnaire modifications: is standardisation needed? *Ann Rheum Dis* 2001;**60**:841–5.
3 **van der Heijde DM**, van Riel PL, van de Putte LB. Sensitivity of a Dutch Health Assessment Questionnaire in a trial comparing hydroxychloroquine vs. sulphasalazine. *Scand J Rheumatol* 1990;**19**:407–12.
4 **Siegert CE**, Vleming LJ, Vandenbroucke JP, Cats A. Measurement of disability in Dutch rheumatoid arthritis patients. *Clin Rheumatol* 1984;**3**: 305–9.
5 **Bijlsma JW**, Oude Heuvel CH, Zaalberg A. Development and validation of the Dutch questionnaire capacities of daily life (VDF) for patients with rheumatoid arthritis. *J Rehab Sci* 1990;**3**:71–4.
6 **Chung C**, Escalante A, Pincus T. How many versions and translations of the HAQ and its variants are needed? It doesn't matter—just use one. *J Clin Rheumatol* 2004;**10**:101–4.

Inefficacy of infliximab in ankylosing spondylitis is correlated with antibody formation

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Tumour necrosis factor blocking agents such as infliximab have proved to be effective in patients with ankylosing spondylitis as up to 60–70% of the patients meet the 20% response criteria of assessment in ankylosing spondylitis (ASAS).[1 2] However, it cannot be explained why 30% of patients fail to respond and develop adverse reactions.

In rheumatoid arthritis, inefficacy to infliximab was associated with low serum trough infliximab levels and the presence of antibodies to infliximab (ATI).[3]

This study was designed to identify whether infliximab levels and ATI predict clinical inefficacy and adverse events in ankylosing spondylitis.

Eight patients with active ankylosing spondylitis (fulfilling the 1984 modified New York Criteria[4]) were treated according to the international ASAS consensus statement,[5] with infliximab 5 mg/kg given intravenously at baseline, weeks 2, 6, and 12, and every 6 weeks thereafter. Sera were collected at 12 and 24 weeks before infusion.

At every visit, questionnaires (eg, Bath Ankylosing Spondylitis Disease Activity Index) to assess ASAS 20% response were obtained and routine laboratory tests were performed. These data were correlated with disease activity (ASAS 20% response), serum trough infliximab levels and antibody levels.

All patients were men, with a median (range) age of 47 (24–52) years, and were human lymphocyte antigen B27 positive, with a median (range) disease duration of 11 (1–28) years (table 1). Patient 1 was concomitantly treated with 15 mg methotrexate weekly and patient 3 was treated with cyclosporine and sulfasalazine.

Most patients responded well to infliximab with a considerable decline in Bath Ankylosing Spondylitis Disease Activity Index, erythrocyte sedimentation rate and C reactive protein, high serum trough levels of infliximab and no development of ATI. However, two non-responders did not show detectable serum trough infliximab levels and developed ATI after, respectively, 12 and 24 weeks. Patient 3 did not respond to treatment at all, whereas patient 5 met the ASAS 20% response criteria but had an increase in erythrocyte sedimentation rate and C reactive protein levels. Both patients developed an infusion reaction to infliximab.

In this study on eight patients with ankylosing spondylitis, a correlation between efficacy of infliximab and high levels of serum trough infliximab was shown. In 25% of these patients

Table 1 Clinical reponse to infliximab in patients with ankylosing spondylitis in relation to infliximab levels and antibodies to infliximab after 24 weeks

Patient	BASDAI week 0 Mean: 5.5 Median: 5.2	BASDAI week 24 Mean: 1.9 Median: 1.8	ESR week 0 Mean: 43 Median: 26.5	ESR week 24 Mean: 11 Median: 8.5	CRP week 0 Mean: 52 Median: 25	CRP week 24 Mean: 8 Median: 5	ASAS 20%	Infliximab level (ng/ml)	ATI (ng/ml)
1	6.4	1.2	88	4	115	4	+	17 800	0
2	4.5	0.7	90	8	120	6	+	10 100	0
3*	†	†	22	26	14	21	†	0	7200
4	7.2	0.0	72	18	104	6	+	20 600	0
5*	4.7	3.1	12	18	7	20	+	0	15 600
6	4.5	1.8	23	9	11	<2.5	+	16 000	0
7	5.2	4.1	10	6	7	<2.5	+	10 300	0
8	6.3	2.1	30	1	36	<2.5	+	16 400	0

ASA, acetylsalicylic acid; ASAS, assessment in ankylosing spondylitis; ATI, antibodies to infliximab; BASDAI, Bath Ankylosing Spondylitis Disease Activity Index; CRP, C reactive protein; ESR, erythrocyte sedimentation rate.
BASDAI score (scale 0–10), ESR (mm/h), CRP (mg/l), ASAS 20% response.
*Considered as non-responders owing to increase in inflammatory parameters.
†Not done owing to severe visual impairment.