

## Impact of herbal medicines on physical impairment

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### Abstract

The usefulness of recording physical impairment during intervention studies in chronic low back patients has been questioned. A re-analysis of all of our studies investigating aqueous extracts of *Harpagophytum procumbens* and a proprietary ethanolic *Salix* extract for chronic non-specific low back pain revealed that the “physical impairment” component of the Arhus low back pain index changed very little during treatment despite appreciable changes in the other two components, “pain” and “disability”, over time. For comparison, we also extracted data from the literature on the topical use of capsaicin, which showed the same thing. There may be little to lose from omitting the time-consuming assessments of “physical impairment” in studies of the (primarily analgesic) effectiveness of herbal preparations.

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**Keywords:** Clinical studies; Physical impairment; *Harpagophytum procumbens*; *Salix*; Capsaicin

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### Introduction

In 1994, the Arhus low back pain index was introduced as feasible tool to monitor the outcome in clinical low back pain trials (Manniche et al., 1994). The index includes sub-scales to assess pain, disability (limitations to the performance of the activities of daily living), and “physical impairment”. The assessments for the Arhus low back pain index take 15 min to complete, of which time more than half is required to carry out the three examinations that assess “physical impairment” in terms of muscular endurance and the mobility of the lower back. For endurance, patients have their legs strapped to a bench, supported as far as their iliac crests and try to keep their upper body horizontal for as long

as they can. The mobility assessment comprises a modified Schober test and a procedure in which patients try, as quickly as possible, to get up from lying supine on a couch, go to the end of the couch where they do a deep knees bend and straighten, and then return to lying supine on the couch.

The usefulness of recording physical impairment in chronic low back pain has recently been questioned because physical impairment scores (assessed by a variant of the Waddell scale (Waddell et al., 1984) were less responsive to treatment (or treatments, which were unspecified) than were scores for pain and disability (Pengel et al., 2004). Since its introduction we have used the Arhus low back pain scale in a number of investigations of the effects of herbal medicines in the treatment of chronic non-specific low back pain. We have re-examined our data to see how far one can generalise claims that “physical impairment” is relatively insensitive to interventions directed at the symptoms of chronic low back pain.

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## Methods

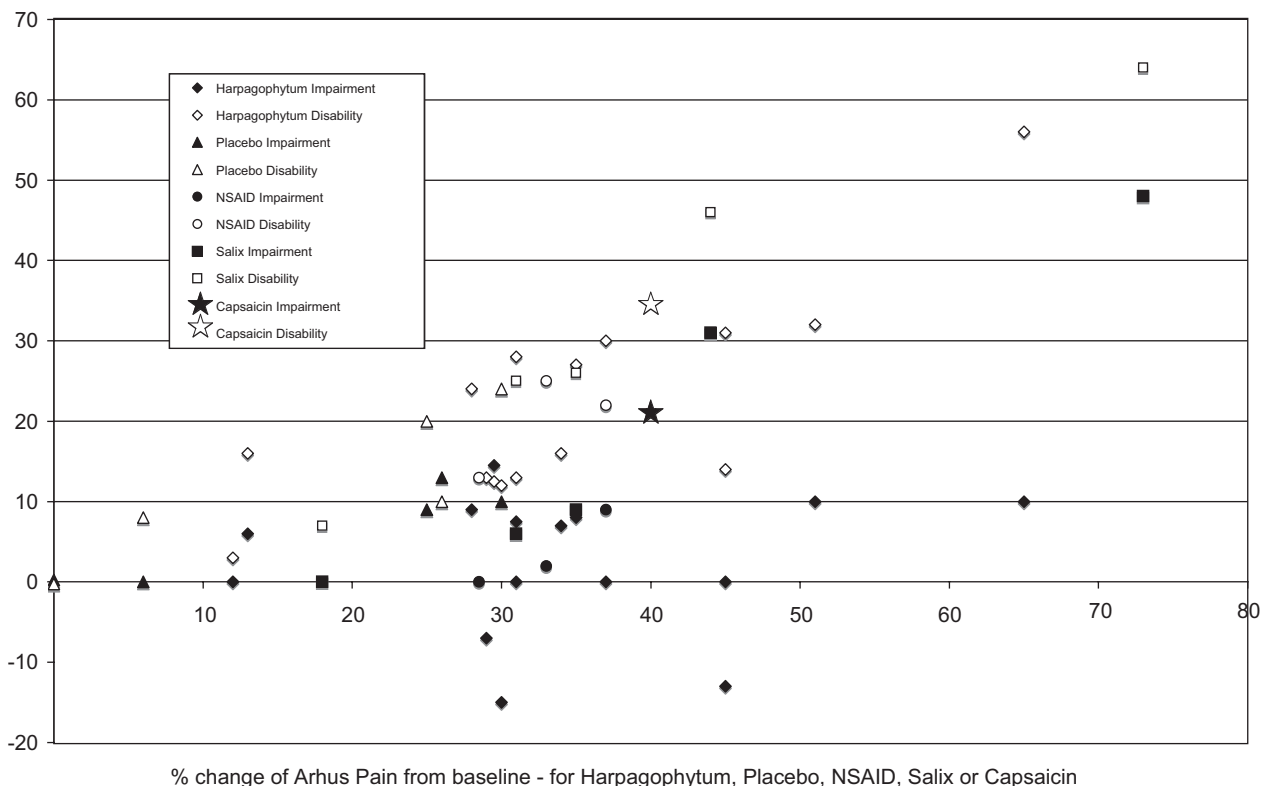
The results for median percentage change from baseline of Arhus pain, disability and physical impairment were extracted from our seven studies of the possible utility of aqueous extracts of *Harpagophytum procumbens* for chronic back pain (2 randomised, double-blind, placebo-controlled studies (Chrubasik et al., 1996; Chrubasik et al., 1999), 1 randomised, double-blind, comparison with a conventional NSAID (Chrubasik et al., 2003), one open controlled comparison with NSAIDs (Chrubasik et al., 1997), and 3 open uncontrolled studies, one over 8 weeks (Chrubasik et al., 2002) and 2 over a year (Chrubasik et al., 2005a, 2007). In addition, we re-examined the same data from one open and one randomised, double-blind placebo-controlled study of a proprietary extract of willow-bark (*Salix daphnoides* and *Salix purpurea*) (Chrubasik et al., 2000, 2001a) and, one randomised, double-blind comparison of the proprietary *Salix* extract with NSAID (Chrubasik et al., 2001b). The data for median percentage change in Arhus physical impairment and disability were plotted against Arhus Pain. For comparison, we also extracted the most closely corresponding data from a study by Frerick et al. (2003) on 320 patients suffering from chronic low back pain that used the Arhus Index to compare the effects of topical capsaicin with placebo after 3 weeks of treatment.

## Results

In Fig. 1, 29 points were plotted using the data from the 11 studies mentioned – each study contributing 2 or more points (i.e. herbal medicine and placebo or NSAID control, or herbal medicine at more than one time).

## Discussion

The disability component of the Arhus Index does tend to change with the pain component, albeit to lesser degree, but the behaviour of the physical impairment component is a little more complex. In the *Harpagophytum* studies, Arhus physical impairment changed very little from baseline even in the 4 instances (all from the open year-long surveillances) when the pain component changed by more than 40% (3 of the instances being at assessments later than 8 weeks from the start of the surveillance). In the *Salix* studies, the 2 instances in which the physical impairment index changed appreciably were from one of our studies in which all 3 components of the Arhus Index changed by amounts that were remarkable in our experience of the short-term use of the extract in question. This study (Chrubasik et al., 2005b) was carried out in Israel according to the



**Fig. 1.** Relation of physical impairment and disability changes to changes in the pain component of the Arhus Index.

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