

# Mindfulness-Based Stress Reduction and Cognitive Intervention

## improve the health-related quality-of-life and ability to work in Crohn's Disease patients. A randomized controlled trial.

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### Introduction

- Crohn's disease (CD) patients have reduced quality-of-life (QoL) in physical, emotional and social domains, and diminished work productivity and leisure activities.
- We examined whether Mindfulness-Based Stress Reduction and Cognitive Intervention (hereafter "Intervention") can improve QoL and ability to work.

### Methods

- Patients (≥18 y), Harvey-Bradshaw Index (HBI) 5-15, were randomized to Intervention or Control groups.
- Intervention was taught between baseline (T1) and 12 weeks (T2) in 8 weekly sessions by social workers via SKYPE™ with twice-daily practice and back-report required.
- Control group (wait-list) was sex-matched CD group who did not receive the Intervention between T1 and T2.
- Medications were not controlled. HBI was completed at T1 and T2, and these questionnaires: (1) Short inflammatory bowel disease questionnaire (SIBDQ), disease-specific QoL measure. (2) Short-Form 12 (SF-12) questionnaire, generic health related QoL measure of physical health (PH) and mental health (MH). (3) EQ-5D-3L health related QoL questionnaire. (4) Work Productivity & Activity Impairment (WPAI) questionnaire, measuring absenteeism, presenteeism (reduced productivity), and leisure activity impairment.
- We compared T1 and T2 data to assess the effectiveness of the Intervention by Pearson Chi Square, Wilcoxon signed ranks test and two-way ANOVA.

### Results

**Table 1: Characteristics of cohort at baseline (T1)**

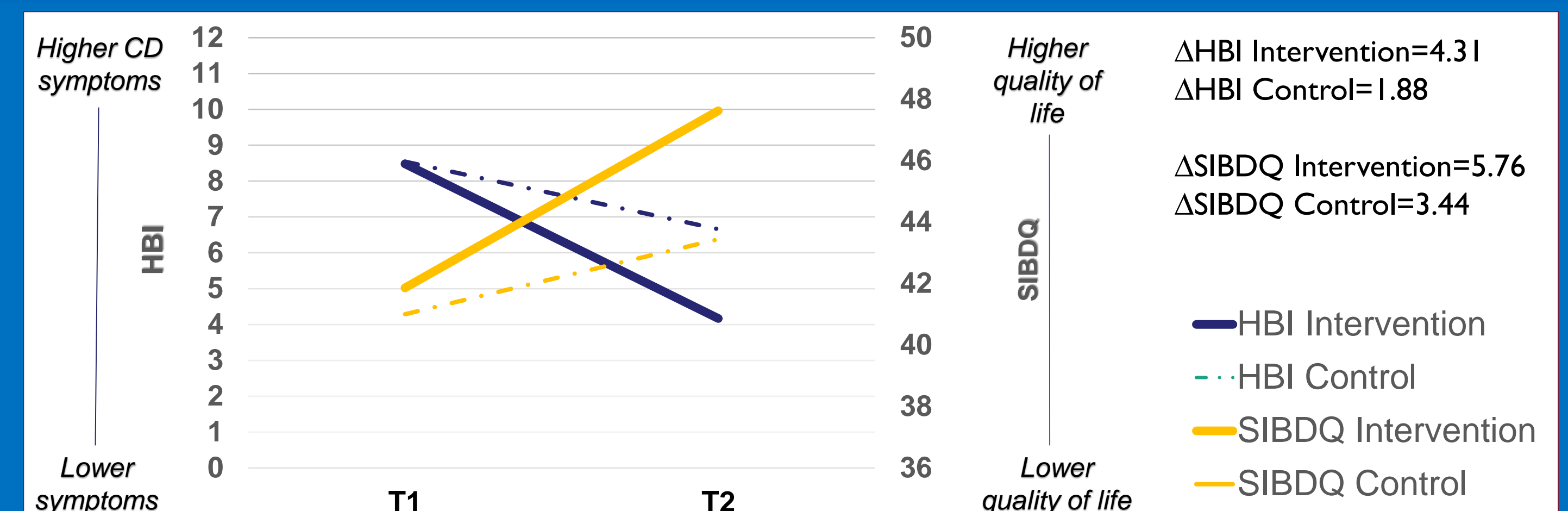
|                                   | Intervention Group (n=45) | Control Group (n=50) |
|-----------------------------------|---------------------------|----------------------|
| Female (%)                        | 67                        | 62                   |
| Age - mean (SD) yrs               | 34.00 (11.76)             | 33.42 (9.61)         |
| Academic education (%)            | 67                        | 68                   |
| Non smokers (%)                   | 73                        | 62                   |
| No past surgery (%)               | 82.2                      | 80                   |
| Fair & higher economic status (%) | 89                        | 62                   |
| Working (%)                       | 78                        | 77.8                 |
| HBI – mean (SD)                   | 8.48 (2.36)               | 8.54 (2.90)          |
| Disease duration – mean (SD) yrs  | 8.40 (8.10)               | 9.22 (8.62)          |
| BMI - mean (SD)                   | 22.40 (6.13)              | 23.67 (5.77)         |
| Montreal A2 (%)                   | 82.2                      | 94                   |
| L1 (%)                            | 60.0                      | 62.0                 |
| B1 (%)                            | 55.6                      | 62.0                 |
| B2 (%)                            | 34.1                      | 30.4                 |
| Perianal disease (%)              | 22.2                      | 12                   |
| Corticosteroids (%)               | 2.2                       | 8                    |
| 5-ASA (%)                         | 6.7                       | 4.0                  |
| Immunomodulators (%)              | 22.2                      | 20.0                 |
| Biologics (%)                     | 49                        | 38                   |

No statistically significant differences between Intervention and Control groups except for socio-economic status ( $p=.01$ )

### Results (continued)

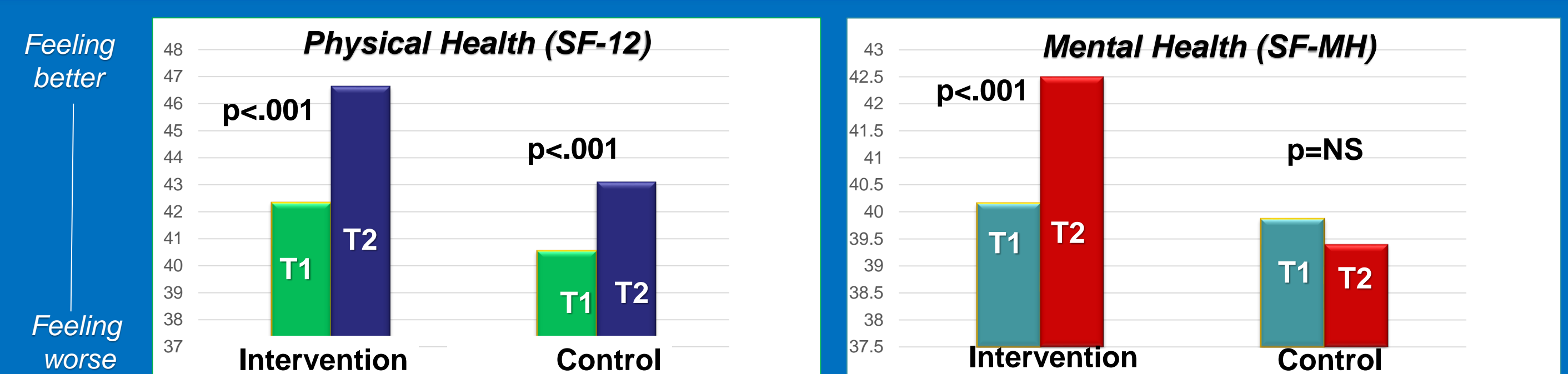
T1: Before intervention; T2: After intervention

**Figure 1: Greater improvement in quality of life (SIBDQ) & CD symptoms severity (HBI) for Intervention group**

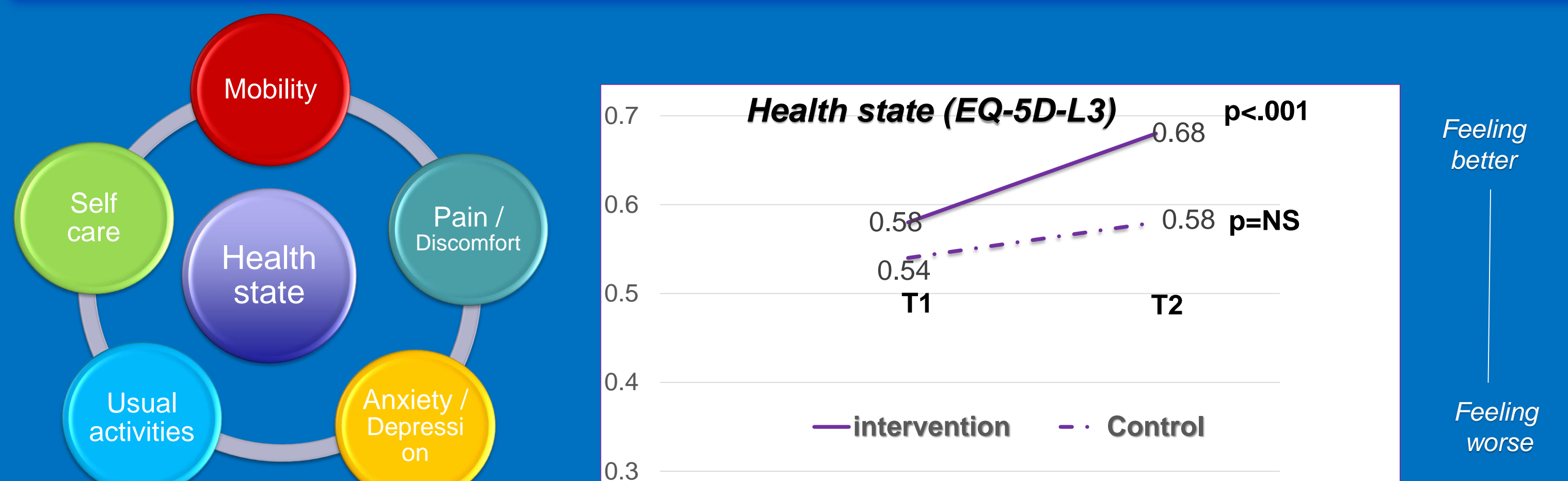


Statistically significant higher Quality of life and lower CD symptoms for both groups while greater change for Intervention group. Changes between groups are significant: Statistically significant interaction between the Intervention and time on HBI  $F(1,93)=12.506$ ,  $p<.001$ , partial  $\eta^2=.119$  ( $n=45$ ) and between the Intervention and time on SIBDQ  $F(1,93)=4.459$ ,  $p<.05$ , partial  $\eta^2=.046$

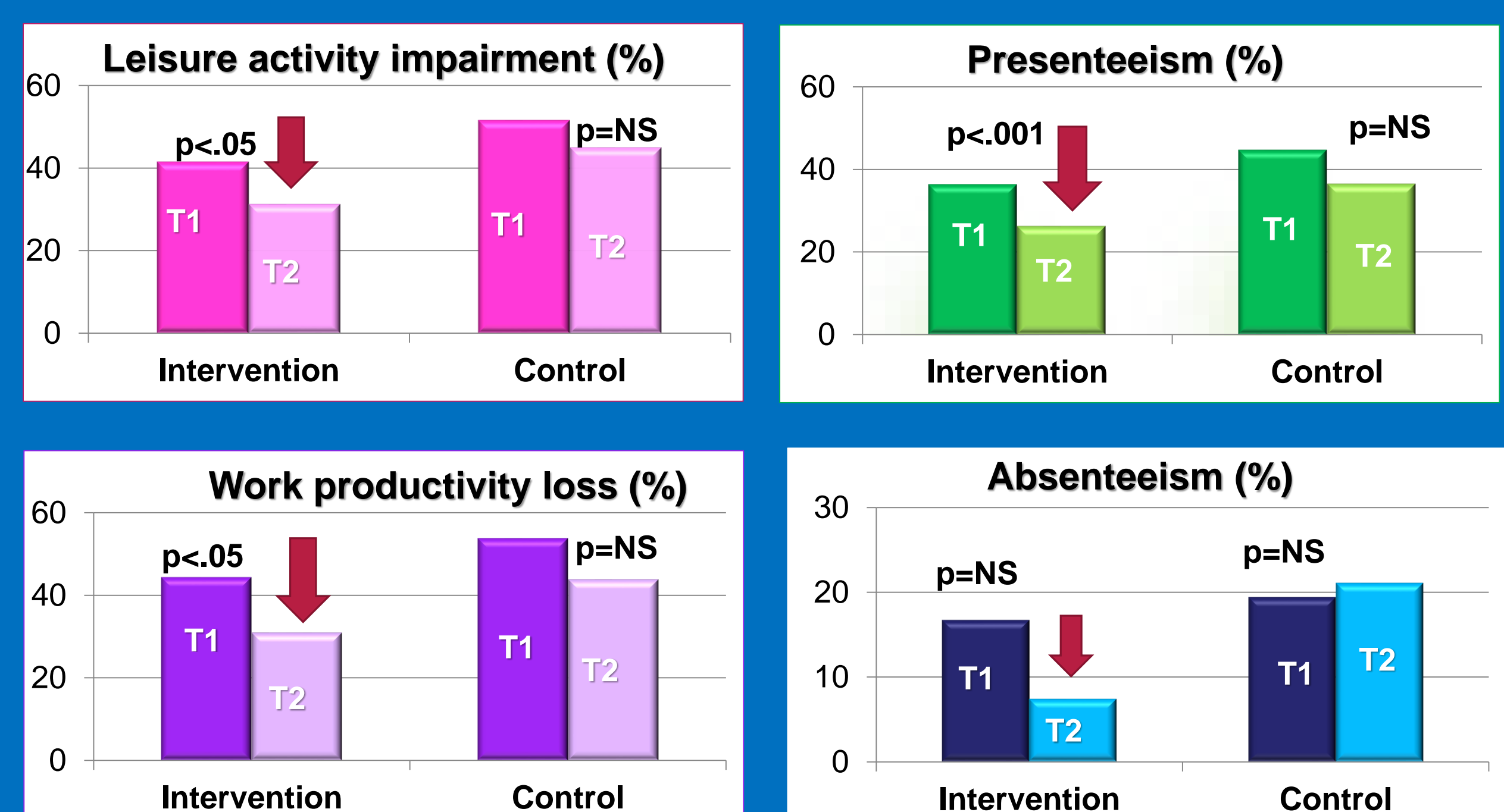
**Figure 2: Physical health improvement in both groups while mental health improvement only for Intervention group**



**Figure 3: Improvement in health measurements (EQ-5D-3L) only in Intervention group**



**Figure 4: Improvement in most working scales (WAPI) in the Intervention group but not in the Control group**



### Conclusions

Mindfulness-Based Stress Reduction and Cognitive Intervention led to: (1) increased quality of life, (2) less absenteeism and presenteeism, (3) greater work productivity, and (4) better leisure activities.

### Support

Supported by a generous grant from the Leona M. and Harry B. Helmsley Charitable Trust.