Disclosure of Interests: Juliana R Hoeper: None declared, Georg Gauler Consultant of: Abbvie, Lilly, MSD, Speakers bureau: Abbvie, Celgene, Novartis, Sanofi,, Dirk Meyer-Olson Grant/research support from: Novartis, Sandoz Hexal, Consultant of: Abbvie, Amgen, Bristol Myers Squibb, Chugai, Lilly, Mylan, Novartis, Sandoz Hexal, Sanofi, Speakers bureau: Abbvie, Bristol Myers Squibb, Chugai, Lilly, Novartis, Pfizer, Sandoz Hexal, Sanofi, Karin Rockwitz Consultant of: Janssen Cilag, Speakers bureau: Janssen Cilag, Patricia Steffens-Korbanka Consultant of: Abbvie, Chugai, Novartis, Sanofi, Mylan, Lilly, Speakers bureau: Abbvie, Chugai, Novartis, Sanofi, Lilly, Carsten Stille: None declared, Jochen Walter Consultant of: Pfizer, Speakers bureau: AbbVie, Frauenhofer Institut, Gilead, Janssen-Cilag, Medac, Novartis, Pfizer, Martin Welcker Grant/research support from: Abbvie, Novartis, UCB, Hexal, BMS, Lilly, Roche, Celgene, Sanofi, Consultant of: Abbvie, Actelion, Aescu, Amgen, Celgene, Hexal, Janssen, Medac, Novartis, Pfizer, Sanofi, UCB, Speakers bureau: Abbvie, Aescu, Amgen, Biogen, Berlin Chemie, Celgene, GSK, Hexal, Mylan, Novartis, Pfizer, UCB, Joerg Wendler Consultant of: Janssen, AbbVie, Sanofi, Speakers bureau: Roche, Chugai, Janssen, AbbVie, Novartis, Jan Zeidler: None declared, Kirsten Hoeper Consultant of: AbbVie, Celgene,, Speakers bureau: Abbvie, Chugai, Novartis, Lilly, Celgene, Sandoz Hexal

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OP0155-HPR EFFECT OF THE DR. BART APPLICATION ON HEALTHCARE USE AND CLINICAL OUTCOMES IN PEOPLE WITH OSTEOARTHRITIS OF THE KNEE AND / OR HIP IN THE NETHERLANDS; A RANDOMIZED CONTROLLED TRIAL

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Background: Self-management is of paramount importance in non-surgical treatment of knee and/or hip osteoarthritis(OA). Modern technologies offer the possibility to support self-management 24/7. We developed an e-self-management application (dr. Bart app) for people with knee and/or hip OA. A central element of the dr. Bart app is that the app proposes a selection of 72 preformulated goals to induce health behaviors based on the 'tiny habits method'[1]

Objectives: To evaluate the short-term effects of the use of the dr. Bart app, compared to usual care, on the number of secondary health care consultations and clinical outcomes in people with knee/hip OA in the Netherlands.

Methods: A randomized controlled design involving participants ≥50 years with self-reported knee and/or hip OA, randomly allocated to the dr. Bart app or usual care. Participants were recruited from the community through advertisements in local newspapers and social media campaigns. In Figure 1 the theoretical framework of the dr. Bart app is presented. Participants received online questionnaires at baseline and after 3 and 6 months of follow-up. The primary outcome was the number of consultations in secondary health care due to OA in the knee/hip in the past six months. Secondary outcome measures were self-management behavior, pain, symptoms, functional limitations, physical activity, quality of life, and illness perceptions. Data were analyzed using negative binomial regression or linear mixed models, as appropriate, corrected for baseline, main OA-location (knee or hip), and interaction between treatment group and time.

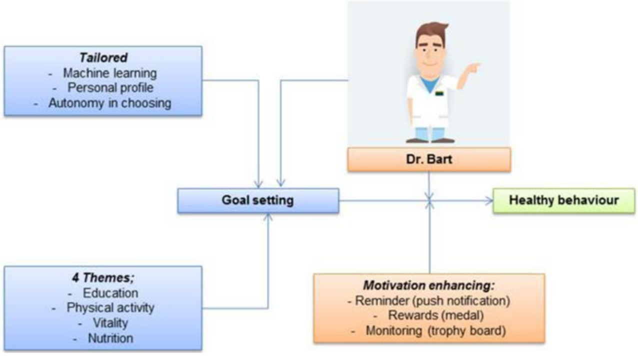

Figure 1. Theoretical framework of the dr. Bart app.

Results: In total 427 eligible participants were allocated to either the dr. Bart group (n=214) or usual care (n=213). Mean age of the participants was 62.1 (SD 7.3) years, with the majority being female (72%) and having symptoms predominantly in their knee(s) (73%). Response rates for the follow-up questionnaires were 75.4% and 69.3% at 3 and 6 months, respectively. With respect to the number of consultations in secondary health care we found a non-significant incidence rate ratio (1.20 (95% CI: 0.67; 2.19)) between the dr. Bart app group and the usual care group. We found a positive overall treatment effect of the dr. Bart app on symptoms (2.6 (95% CI: 0.4; 4.9)), pain (3.5 (95% CI: 0.9; 6.0)) and, activities of daily living (2.9 (95% CI: 0.2; 5.6)), see Table 1. We found non-significant differences between groups for self-management behavior, physical activity, health-related quality of life and illness perceptions.

Table 1. Overall treatment effect and treatment effects at 3 and 6 months of the dr. Bart app.

Measures	Treatment effects of dr. Bart app		
	Δ3 months[§ ∞] (95 % CI)	Δ6 months[§ ∞] (95 % CI)	Δ overall[§] (95 % CI)
Number of consultations in secondary health care †	1.05 (0.55; 2.02)	1.32 (0.89; 2.87)	1.20 (0.67; 2.16)
KOOS/HOOS			
- Symptoms	*1.5 (-1.2;4.1)*	*2.6 (-0.4; 5.6)*	***2.6 (0.4; 4.9)****
- Pain	***3.1 (0.2; 5.9)****	*0.9 (-2.0; 3.8)*	***3.5 (0.9; 6.0)****
- Activities of daily living	*2.5 (-0.7; 5.7)*	*0.9(-2.6; 4.4)*	***2.9 (0.2; 5.6)****
- Functioning in sport and recreation	*-1.7 (-6.4; 2.9)*	***7.7 (2.7; 12.7)****	*1.9 (-2.0; 5.9)*

* Indicates p-value < 0.05
† Reported as incidence rate ratio
§Adjusted for baseline value, treatment group and main OA-location (knee/hip)
∞ Adjusted for time, and interaction between treatment group and time
Abbreviations: KOOS; Knee Injury and Osteoarthritis Outcome Score; HOOS; Hip Disability and Osteoarthritis Outcome Score.

Conclusion: The dr. Bart app did not reduce the number of secondary health care consultations compared to usual care. However, we found positive effects attributable to the dr. Bart app on pain, symptoms, activities of daily living and functioning in sport and recreation in people with knee/hip OA, suggesting that the dr. Bart app has potential to positively influence health in people with knee/hip OA.

References:

[1] Fogg GJ. 2009: ACM; 2009: 40.

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OP0156-HPR COST EFFECTIVENESS OF TELE-HEALTH FOLLOW-UP IN RHEUMATOID ARTHRITIS BASED ON A NON-INFERIORITY RANDOMIZED CONTROLLED TRIAL

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Background: The clinical effectiveness of a patient-reported outcome (PRO) based telehealth intervention offered to rheumatoid arthritis (RA) patients with low disease activity or remission has previously been reported[1]. The TeRA study showed that PRO-based telehealth follow-up in RA achieved similar disease control as conventional outpatient follow-up among patients with low disease activity or remission. The degree of disease control did not differ between telehealth follow-up offered by rheumatologists or rheumatology nurses.

Objectives: To compare the cost-effectiveness of PRO–based telehealth follow-up to patients with RA performed by rheumatologists or rheumatology nurses with conventional outpatient follow-up.

Methods: A total of 294 patients were randomized (1:1:1) to either PRO-based telehealth follow-up carried out by a nurse (PRO-TN) or a rheumatologist (PRO-TR), or conventional outpatient follow-up by physicians. Quality of life (EQ-5D) was measured at baseline and at follow-up after one year. The primary outcome was a change in the Disease Activity Score, C-reactive Protetin in 28 joints (DAS-28, CRP).

The focus in the health economic evaluation was on the relation between costs and EQ-5D in the period between one year prior to and one year after the intervention. All costs were measured at the individual level and consisted of: intervention costs, health and social care costs, and productivity costs. All cost data were retrieved from Danish population-based registers. Incremental cost-effectiveness rates (ICERs) were calculated on the basis of a comparison of the development in costs and effects in the two intervention groups (separately and combined) with the control group. Bootstrap with 10,000 replications were used to access significance.

Results: The difference in health and social care costs during the intervention period compared to the year before were €1,072, - €50 and €519 for the control group, the PRO-TR group and the PRO-TN respectively. Hence, the change in health and social care costs was lower for both intervention groups. The PRO-TR group had a small decrease and it was significantly lower than for the control group (p=0.0027). The difference between health and social care costs in the PRO-TN group compared to the control group was only borderline significant (p=0.067). No statistically significant differences were found in QALY's between the three groups, all three groups experienced minor, non-significant, declines in QALY over the intervention period. ICER's were not statistically significant but below known threshold values for the PRO-RN group (ICER=€17,121).

Conclusion: It is difficult to obtain statistically significant results for cost-effectiveness in small samples. However, the results point towards a possible cost-saving impact of PRO interventions in patients with low disease activity or remission. The study was unable to conclude if PRO-TR or PRO-TN were most cost-effective. Other relevant considerations, like patient satisfaction or organisational issues, should determine the way of organizing RA disease management in these patients.

References:

[1] de Thurah A, Stengaard-Pedersen K, Axelsen M, et al. Tele-Health Follow-up Strategy for Tight Control of Disease Activity in Rheumatoid Arthritis: Results of a Randomized Controlled Trial. *Arthritis care & research* 2018; **70**(3): 353-60.

Disclosure of Interests: Annette de Thurah Grant/research support from: Novartis (not relevant for the present study)., Speakers bureau: Lily (not relevant for the present study)., Christian Skovsgaard: None declared, Thomas Maribo: None declared, Niels Henrik Hjøllund: None declared, Marie Kruse: None declared

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OP0157-HPR

DISSEMINATION AND ASSESSING IMPLEMENTATION OF THE EULAR RECOMMENDATIONS FOR PATIENT EDUCATION FOR PEOPLE WITH INFLAMMATORY ARTHRITIS ACROSS EUROPE

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Background: EULAR recommendations for patient education for people with inflammatory arthritis (IA) were published in 2015.[1] This is the first systematic dissemination and implementation study, reporting qualitative data identifying barriers to implementation of the recommendations.

Objectives: To (i) disseminate and assess the level of acceptability and applicability of the EULAR recommendations for patient education among healthcare professionals and rheumatologists and (ii) assess potential barriers and facilitators to their application in clinical practice.

Methods: This was a cross-sectional study using survey methods. Survey items were developed in English and translated into 20 different languages before being distributed to health professionals by snowball sampling using an online platform. The items covered demographic information and 10-point rating scales assessing the level of acceptability and applicability of each of the eight recommendations. In addition, textual data fields were provided to assess reasons for disagreeing and barriers to implementation of the recommendations in practice. Quantitative data were analysed descriptively with agreement and applicability levels summarised as median (IQR) scores. Textual data were analysed by content analysis and presented in themes. Finally, collaborators in each country reviewed the top barriers to implementation and proposed facilitators to implementation in their respective countries.

Results: A total of 2442 responses were recorded from 23 countries, but only 1495 contained complete data. Of complete responses, 74% were women. Most of the professionals were nurses (n=640), rheumatologists (n=369) and physiotherapists (n=232).

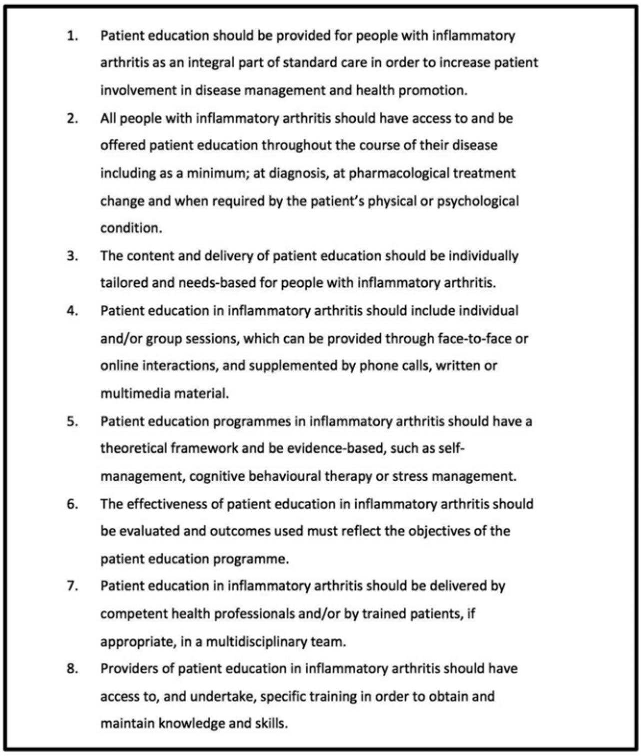
Table 1 presents the levels of agreement and applicability of the recommendations. For all recommendations, the level of agreement was high (median=10). However, the level of applicability was generally lower compared to each corresponding agreement level, especially for recommendation 6, which states that the effectiveness of patient education should be evaluated. Lack of an effective evaluation tool was the biggest barrier to implementation.

Table 1. Levels of agreement and applicability of each recommendation.

	Agreement		Applicability	
	Median	IQR	Median	IQR
Recommendation 1	10	10 to 10	8	7 to 10
Recommendation 2	10	10 to 10	8	6 to 10
Recommendation 3	10	9 to 10	8	7 to 10
Recommendation 4	10	8 to 10	7	5 to 10
Recommendation 5	10	8 to 10	7	5 to 9
Recommendation 6	10	8 to 10	6	4 to 8
Recommendation 7	10	9 to 10	8	5 to 8
Recommendation 8	10	10 to 10	8	5 to 8

There were notable similarities between barriers and facilitators for implementation of the recommendations across countries. The 3 most common barriers to application were; (i) lack of time (ii) lack of training in how to provide patient education and (iii) not having enough staff to provide patient education. The most common facilitators were: tailoring the content and delivery of patient education to individual patients; training providers, and evaluating the effectiveness of patient education with individual patients.

Conclusion: This project has disseminated the EULAR recommendations for patient education across 23 countries. There was high agreement with the recommendations among health professionals but their application to clinical practice was lower. Some barriers to application are amenable to change such as addressing training needs of health professionals and developing evaluation tools for patient education.



1. Patient education should be provided for people with inflammatory arthritis as an integral part of standard care in order to increase patient involvement in disease management and health promotion.
2. All people with inflammatory arthritis should have access to and be offered patient education throughout the course of their disease including as a minimum; at diagnosis, at pharmacological treatment change and when required by the patient's physical or psychological condition.
3. The content and delivery of patient education should be individually tailored and needs-based for people with inflammatory arthritis.
4. Patient education in inflammatory arthritis should include individual and/or group sessions, which can be provided through face-to-face or online interactions, and supplemented by phone calls, written or multimedia material.
5. Patient education programmes in inflammatory arthritis should have a theoretical framework and be evidence-based, such as self-management, cognitive behavioural therapy or stress management.
6. The effectiveness of patient education in inflammatory arthritis should be evaluated and outcomes used must reflect the objectives of the patient education programme.
7. Patient education in inflammatory arthritis should be delivered by competent health professionals and/or by trained patients, if appropriate, in a multidisciplinary team.
8. Providers of patient education in inflammatory arthritis should have access to, and undertake, specific training in order to obtain and maintain knowledge and skills.

Figure 1. Recommendations for patient education in inflammatory arthritis.[1]

References:

[1] Zangi HA, et al. EULAR recommendations for patient education for people with inflammatory arthritis *Ann Rheum Dis*. 2015;**74**:954-962.

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