HEalthy Living in Inflammatory Arthritis (HELIA trial): a randomized controlled trial comparing efficacy between an interactive, online lifestyle intervention program and general nutrition recommendations

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Lifestyle intervention programs reduce inflammatory activity and might, therefore, be of added value in the management of patients with an inflammatory arthritis. Therefore, the aims of this randomized controlled trial are: 1. To compare the...

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Synovial and bursal disorders
Study type	Interventional

Summary

ID

NL-OMON51687

Source
ToetsingOnline

Brief title
HELIA trial

Condition

- Synovial and bursal disorders

Synonym
Inflammatory arthritis; (symmetrical) joint inflammation with or without antibodies

Research involving

Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Ministerie van OC&W,ReumaNederland

Intervention

Keyword: Disease activity, Inflammatory arthritis, Lifestyle intervention, Patient reported outcomes

Outcome measures

Primary outcome

The primary outcome is the proportional difference in DAS28/DAPSA remission and/or those who were able to taper their medication without having a disease flare after 12 months of follow-up between inflammatory arthritis patients who followed the lifestyle intervention program and those who received general nutrition recommendations. Disease activity in rheumatoid arthritis (RA) and psoriatic arthritis (PsA) patients is respectively measured with the DAS28 and DAPSA. The DAS28 is a pooled index that involves the incorporation of an 28-joint count for tenderness (TJC28), a 28-joint count for swelling (SJC28), an erythrocyte sedimentation rate (ESR) and general health (GH, measured with a VAS 0 -100mm) into a formula to obtain a numerical indicator of disease activity. The DAS28 formula is 0.56*(TJC28) + 0.28*(SJC28) + 0.70ln(ESR) + 0.014(GH). The DAPSA is also a pooled index, which is made up following 5 domains: (1) a 68-joint count for tenderness, (2) a 66-joint count for swelling, (3) a C-reactive protein (expressed in mg/dl),(4) a patient*s assessment of the disease activity (VAS, 0 - 10 cm) and (5) a patient*s assessment of pain severity (VAS, 0 - 10 cm). The numerical values for the

aforementioned 5 domains are summed to provide the DAPSA score. Thresholds for remission are respectively <2.6 and <=4. Tapering of treatment is left to the discretion of the treating rheumatologist and patient.

The co-primary outcome for the cost-effectiveness analysis will be the incremental cost-effectiveness ratio (ICER), which is the ratio of the difference in costs to incremental benefits between the online interactive lifestyle intervention program and general nutrition recommendations. For the cost-effectiveness analysis we will calculate the Quality Adjusted Life Years (QALYs) and total costs. QALYs express the impact of the disease on patients* health over time. Living in perfect health corresponds to a QALY of 1, a QALY of 0 reflects death. QALYs are determined by calculating the area under the curve of dutch EuroQol questionnaire with 5 dimensions (EQ-5D) with 5 levels. Costs are divided in direct and indirect costs. We will analyse direct and indirect costs from a societal perspective. Direct costs are the costs of treatment and medical consumption, whereas indirect costs are costs due to loss of productivity (i.e. presenteeism and absenteeism). Medication costs are calculated from doses reported in the patients* case records, valued according to the Dutch college of health insurances. Medical consumption, including duration of hospitalizations and admission diagnosis are recorded every three months with the iMTA medical consumption questionnaire. We will use the Dutch average length of stay by diagnosis if the duration of hospitalization is unknown. Indirect costs include not fully functioning, sick leave and reduction in work time. Worker productivity is measured with the Work Productivity and

Activity Impairment (WPAI) questionnaire, which includes presenteeism and absenteeism. WPAI outcomes are expressed as impairment percentages, with higher numbers indicating greater impairment and less productivity.

Secondary outcome

For our secondary endpoints the effectiveness from a clinical, patient as well as a societal point of view, will be compared between the online interactive lifestyle intervention program and general nutrition recommendations.

Clinical outcomes:

• In rheumatoid arthritis (RA) and psoriatic arthritis (PsA) patients disease activity (states) are respectively measured with the DAS28 and DAPSA. The DAS28 is a pooled index that involves the incorporation of an 28-joint count for tenderness (TJC28), a 28-joint count for swelling (SJC28), an erythrocyte sedimentation rate (ESR) and general health (GH, measured with a VAS 0 -100mm) into a formula to obtain a numerical indicator of disease activity. The DAS28 formula is 0.56*(TJC28) + 0.28*(SJC28) + 0.70ln(ESR) + 0.014(GH). The DAPSA is also a pooled index, which is made up following 5 domains: (1) a 68-joint count for tenderness, (2) a 66-joint count for swelling, (3) a C-reactive protein (expressed in mg/dl), (4) a patient*s assessment of the disease activity (VAS, 0 - 10 cm) and (5) a patient*s assessment of pain severity (VAS, 0 - 10 cm). The numerical values for the aforementioned 5 domains are summed to provide the DAPSA score. Thresholds for remission and moderate-to-high disease activity are respectively <2.6 and <=4 and >=3.2 and >14.

Patient reported outcomes (PROs):

• Self-reported disease activity, measured with the Routine Assessment of Patient Index Data 3 (RAPID3). Thresholds for remission and moderate-to-high disease activity are respectively <3.1 and >=6.1 if the 0 - 30 scale is used.

• General Health, measured with a visual analogue scale (VAS, 0 - 100 mm), whereby higher scores reflect greater severity.

• Pain, measured with a visual analogue scale (VAS, 0 - 100 mm), whereby higher scores reflect greater severity.

• Morning stiffness (severity and duration), measured with a 10-point Likert scale, whereby higher scores reflect greater severity.

• Fatigue, measured with the Functional Assessment of Chronic Illness Therapy - Fatigue (FACIT-F). The FACIT-F consists of 13-items with a 7-day recall period. Items are scored on a 0 - 4 response scale with anchors ranging from *Not at all* to *Very much so*. All items are summed to create a single fatigue score with a range from 0 to 52 and higher scores represent less fatigue.

• Fatigue, measured with a visual analogue scale (VAS, 0 - 100 mm), whereby higher scores reflect greater severity.

• Functional ability, measured with the health assessment questionnaire (HAQ). Higher HAQ scores indicate poorer function.

• Quality of life, measured with the Dutch EuroQol questionnaire with 5 dimensions (EQ-5D) with 5 levels. Higher scores represent a higher quality of life.

• Quality of sleep, measured with the sleep scale from the medical outcomes study (MOS-ss). The MOS-ss includes 12 items assessing sleep disturbance, sleep

adequacy, somnolence, quantity of sleep, snoring, and awakening. A sleep problems index, grouping items from each of the former domains, is also available.

• Diet compliance, measured with a self-developed questionnaire consisting of 17 questions.

Societal outcomes:

• Worker productivity, measured with the Work Productivity and Activity Impairment (WPAI) questionnaire,which includes presenteeism and absenteeism. WPAI outcomes are expressed as impairment percentages, with higher numbers indicating greater impairment and less productivity.

Study description

Background summary

The clinical outcomes of patients with an inflammatory arthritis (IA), including rheumatoid arthritis and psoriatic arthritis, have improved enormously due to the further development of their management strategies. As a result >80% of the IA patients reach low disease activity. Despite reaching low disease activity, the disease still has a significant impact on patients* lives, which manifests itself in persistent fatigue, pain and morning stiffness. This residual disease activity is less in IA patients who are in remission. Unfortunately, remission occurs less often and is not always achievable with current DMARD treatment. In addition, IA patients still often want to taper their medication, despite the risk of a disease flare, because (fear of) side effects.

For aforementioned IA patients an lifestyle intervention program might be of added value. Lifestyle intervention programs can reduce inflammatory activity and subsequently might lessen disease impact and the risk of a flare.

Therefore, the aim of this study is to compare the effectiveness of an online interactive lifestyle intervention program with general nutrition

recommendations in rheumatoid arthritis and psoriatic arthritis patients with a low disease activity from a clinical, patient's as well as a societal point of view.

Study objective

Lifestyle intervention programs reduce inflammatory activity and might, therefore, be of added value in the management of patients with an inflammatory arthritis. Therefore, the aims of this randomized controlled trial are:

1. To compare the clinical effectiveness between an online, interactive lifestyle intervention program and general nutrition recommendations in inflammatory arthritis patients with a low disease activity, by looking at the proportional difference in DAS28/DAPSA remission and/or those who were able to taper their medication without having a disease flare after 12 months of follow-up.

2. To evaluate the cost-effectiveness of the online lifestyle intervention program versus general nutrition recommendations, by using the incremental cost-effectiveness ratio (ICER) as outcome, which is the ratio of the difference in costs to incremental benefits between both interventions.

3. To compare patient-relevant outcome (PRO) domains; namely fatigue, pain, activity limitation, quality of life, sleep and worker productivity between the online lifestyle intervention program and general nutrition recommendations.

Study design

The HEalthy Living in Inflammatory Arthritis (HELIA) trial is an open-label, randomized controlled trial, which will be carried out in the Erasmus Medical Center. Rheumatoid arthritis or Psoriatic arthritis patients with a low disease activity, defined as Disease Activity Score (DAS28)<3.5 and >2.6 or Disease Activity in PSoriatic Arthritis(DAPSA) <16 and >5, are eligible. After informed consent patients will be randomized using minimization randomization stratified for diagnosis, by an independent call center. Trained research nurses will examine patients and calculate the DAS28 or DAPSA depending on the diagnosis

Patients are randomized into an online, interactive lifestyle intervention program or general nutrition recommendations. The lifestyle intervention program (called Leef! met reuma) consists of an intensive part of 6 months, followed by an aftercare program of 18 months. The online program focuses on 4 pillars: Nutrition, exercise, relaxation and sleep. The diet that is prescribed is comparable to the Mediterranean diet, with an emphasis on unprocessed foods (especially vegetables).The general nutrition recommendations consists of information on the *Schijf van Vijf, which is given during a (online) lecture of approximately 1 hour. There will be no follow-up on this lecture.

Concomitant treatment with DMARD(s) is allowed, but participants have to have been receiving a stable dose for >=6 months prior to randomization. Tapering, continuation or intensification of treatment is left to the discretion of the treating rheumatologist and patient.

Patients have a personal responsibility for the implementation of a healthier lifestyle after the given tools. In our opinion, risk associated with participation are, therefore, low. Hypothetically, a food-drug interaction or an allergic food reaction could occur.

Patients will be assessed at baseline and after 3, 6, 12 and 24 months. At each visit patients will fill out online questionnaires (~30 minutes) and are seen by the research nurse (except for 24 months), who calculates the DAS28 or DAPSA depending on the diagnosis. Study visits will take 30 minutes or less.

Intervention

See section study design

Study burden and risks

Patients participate in an online, interactive lifestyle intervention program or receive general nutrition recommendations. Patients have a personal responsibility for the implementation into their own lives. In our opinion, risk associated with participation are, therefore, low. Hypothetically, a food-drug interaction or an allergic food reaction could occur.

Although risks are low, there are still some drawbacks. Participation takes extra time. In order to keep this to a minimum, our research is as much as possible interwoven with daily practice. At baseline patients are assessed by a research nurse, , who calculates the DAS28 or DAPSA depending on the diagnosis, after which they are randomized and directly start with their first lifestyle intervention session or receive the general nutrition recommendations. The subsequent study visits, respectively after 3,6 and 12 months, are planned as much as possible on the same day as the outpatient clinic visit. Study visits will take 30 minutes or less and.

At each visit patients will fill out online questionnaires (at home), with one additional survey after 24 months. The length of these surveys is approximately 30 minutes and vary per visit.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

In order to be eligible to participate in the study, a subject must meet all of the following criteria:
- Diagnosed with rheumatoid arthritis(RA) or psoriatic arthritis(PsA), according to respectively the ACR/EULAR 2010 criteria for RA and CASPAR criteria
- Low disease activity, defined as Disease Activity Score (DAS28)<3.5 and >2.6 or Disease Activity in PSoriatic Arthritis(DAPSA) <16 and >5
- Stable DMARD dosage in the past six months
- Age >=18 years;

Exclusion criteria

- Unable to understand, speak and write in Dutch

Study design

Design

Study phase:	4
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	03-03-2023
Enrollment:	200
Type:	Actual

Ethics review

Approved WMO

Date:	06-12-2022
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL81013.078.22