We developed a functional study using two types of mitochondriald cylinders carrying the most common haplogroup H: one harboring the mtDNA variant m.16519C and the other the wild type m.16519T. Cybrids were used to assess mitochondrial biogenesis and mitochondria
drial fission/fusion by gene expression analyses, as well as cell viability
to oxidative stress and mitochondrial reactive oxygen species (ROS)
production.

Results: The in-depth sequencing of mtDNA data showed the D-loop var-
iant m16519C significantly overrepresented in rapid-progressors
(OR=1,559;95%CI=1,125-2,161; p=0,004). The subsequent meta-analysis for both ORs showed the variant
ment of this model in the replication cohort showed a similar trend that bor-
dered the statistical significance (OR=1,506;95%CI=0,842-2,165;p=0,062)
(See Figure 1).

Cybrids harboring the mtDNA variant m.16519C showed lower levels of PGC-1α (p=0,0024) and FIS1 (p=0,0819) than cybrids with the wild
type in addition, cybrids harboring the variant m.16519C showed lower
average cell survival under oxidative stress conditions (23,42±8,88 vs
115,7±64,1;p=0,0043), as well as higher mitochondrial ROS production
(4,21±1,29 vs 2,21±1,34;p=0,014).

Conclusion: D-loop variant m.16519C increases the risk of developing a
rapid progression of knee OA. Among the effects caused by this variant both
of Southern Denmark, Department of Clinical Research, Faculty of Health
Sciences, Odense, Denmark

Background: Despite disease-modifying anti-rheumatic drugs, residual arthri-
tis-related symptoms and burdens are still common in patients with rheumatoid
arthritis (RA)\(^1\). In addition, insomnia – characterised by reduced sleep quantity
and quality – is highly prevalent, occurring in up to 70% of patients with RA\(^2\).
Insomnia is associated with increased pain, fatigue, and depressive symptoms.
Cognitive behavioural therapy for insomnia (CBT-I) is recommended first-line
for chronic insomnia\(^3\) but has not been evaluated in patients with RA
until now.

Objectives: The objective of this study was to explore patients’ experiences
of CBT-I and how the components of CBT-I are incorporated in their sleep
management.

Methods: Participants were patients with RA who had received CBT-I as experi-
mental treatment for insomnia in a randomised controlled trial (RCT)\(^4\).
Data were collected during an individual face-to-face interview using a semi-structured
interview guide. The analysis was based on reflexive thematic method by Braun
and Clarke\(^5\).

Results: Eleven participants (10 women and one man) from the intervention
group of the RCT were interviewed. Prior to inclusion in the RCT, they had insom-
nia complaints for 8 years (median; interquartile range: 3.20 years).

Five themes emerged: 1) When knowledge contributes to an altered percep-
tion of sleep referring to the reduced misperception and increased motivation
that followed sleep education, 2) Overcoming habits and perceptions to accel-
erate sleep onset referring to barriers related to sleep behaviour and mind-
set and how stimulus control was enabling them to find meaningful behaviour
and rhythm, 3) The sleep window of challenges in learning how to sleep right
referring to that payoff from sleep restriction did not come easily or by magic,
and commitment led to progress and gave them confidence to continue, 4)
Relaxation becomes a behavioural habit and goes beyond sleep referring to a
means to achieve a relaxed body and mind and how they thereby coped better
with RA-related symptoms, and 5) Break the cycle and regain control referring
to how awareness of a vicious cycle was central to their perception of sleep
and how trust in one’s own accomplishment was crucial to reducing worrying
(Figure 1).

Table 1. Binary regression model including clinical variables and m.16519C in both cohorts.

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>-0.022*</td>
<td>(-0.053 to 0.01)</td>
<td>0.36</td>
</tr>
<tr>
<td>Sex (male)</td>
<td>1.079</td>
<td>(0.973 to 1.197)</td>
<td>0.272</td>
</tr>
<tr>
<td>Society (urban)</td>
<td>0.772</td>
<td>(0.496 to 1.192)</td>
<td>0.196</td>
</tr>
<tr>
<td>OAR (Western Ontario and McMaster Universities Osteoarthritis Index)</td>
<td>1.345</td>
<td>(1.002 to 2.267)</td>
<td>0.48</td>
</tr>
<tr>
<td>m.16519C</td>
<td>-0.021*</td>
<td>(-0.051 to 0.006)</td>
<td>0.501</td>
</tr>
<tr>
<td>m.16519C</td>
<td>-0.022*</td>
<td>(-0.051 to 0.006)</td>
<td>0.491</td>
</tr>
</tbody>
</table>

Figure 1. Forest plot of the meta-analysis of the ORs of the two predictive models.

REFERENCES:
[1] PMID: 29251034
[2] PMID: 25620673
[3] PMID: 28875581
[4] PMID: 3247147

HPR: From prevention to management

OP0016-HPR PATIENTS' EXPERIENCES OF GROUP-BASED COGNITIVE BEHAVIOURAL THERAPY FOR INSOMNIA IN PATIENTS WITH RHEUMATOID ARTHRITIS: A QUALITATIVE STUDY

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Disclosure of Interests:

Figure 1. The five themes with quotes from participants

Overall, the participants experienced CBT-I as challenging and demanding but at
the same time meaningful. The participants considered persistency, stringency,
and inflexibility necessary to succeed. After the intervention, the participants
had continued using those components that enabled them individually to further
improve their sleep.

Conclusion: The process towards eliminating insomnia was a bodily experience
and involved a changed mindset that altered behaviour and cognitions.

Figure 1. The five themes with quotes from participants

I used to think "I've gotta get a good night's sleep or I won't be able to do my job"... I didn't dare to go to sleep. I often slept badly. When I didn't manage to fall asleep or fell asleep but woke up during the night, I thought "I won't be able to get up tomorrow..."

I find I'm not starting to get a sleep right away when I go to bed... I have a lot of worry. And if I can't get to sleep, I start thinking about what I have to do the next day.

I used to think it was never enough and I never did enough so I didn't get a proper sleep. But now it's better if I manage to get 8 hours in one go.

I used to think that [a patient] should not be afraid of going to bed in order to know that it was completely normal, therefore you can sleep on.

When knowledge contributes to an altered perception of sleep

Overcoming habits and perceptions to accelerate sleep onset

Relaxation becomes a behavioural habit and goes beyond sleep

Break the cycle and regain control

I used to think that if I didn't get to bed early I wouldn't have enough time to fall asleep. But now I'm not so afraid of going to bed and I feel better because I have learned how to get better sleep.

I don't think it's healthy to have to go to sleep in order to know that it is completely normal, therefore you can sleep on.

For me it's important that I can do my daily activities and sleep at the same time meaningful. The participants considered persistency, stringency, and inflexibility necessary to succeed. After the intervention, the participants had continued using those components that enabled them individually to further improve their sleep.

Conclusion: The process towards eliminating insomnia was a bodily experience and involved a changed mindset that altered behaviour and cognitions.
Background: Task-shifting between physicians and other health professionals is increasingly used as a strategy to optimise health care services. However, there is a lack of evidence regarding task-shifting within the field of rheumatology, specifically hand osteoarthritis (HOA). HOA is a highly prevalent rheumatic joint disease, and the number of people living with debilitating HOA will continue to rise in the coming decades\(^1,2\). HOA is diagnosed based on clinical examination and the first choice of treatment is non-pharmacological. Despite this, patients with HOA are increasingly referred to rheumatologists (RTs) in specialist care, contributing to long wait times and bottle-necks within the health care service. A possible solution to this challenge is task-shifting to occupational therapists (OTs).

**Objectives:** To explore the process of task-shifting in the care of patients with HOA between RTs and OTs in a Norwegian health care context.

**Methods:** This is a multi-centre qualitative study. Individual semi-structured interviews were conducted in-person or digitally with RTs and OTs between December 2020-June 2021. They were audio-recorded and transcribed verbatim. Reflexive Thematic Analysis was employed to analyse the data, and carried out in NVivo.

**Results:** In total, 17 participants were interviewed; 9 RTs and 8 OTs. Majority of respondents were female (n= 14), had an average of 20.5 years of experience and were 48.5 years old. Interviews lasted on average 90 minutes, (range: 45-120 minutes). The analysis resulted in 5 main themes:

1. **(1) Attitudes towards task-shifting of HOA care:** Both RTs and OTs were overwhelmingly positive about task-shifting and reported OTs to be better suited caring for patients with HOA than RTs. There was agreement amongst RTs that generally, they had little to offer HOA patients besides information.

2. **(2) Desirability of caring for HOA:** RTs felt no occupational “ownership” of the HOA diagnosis due to the lack of curative medical treatment, and would prefer HOA patients to be seen by an OT. OTs on the other hand perceived themselves as a profession with tools, skills and competencies that would benefit patients with HOA. 3) **Practical and theoretical knowledge:** OTs and RTs viewed different kinds of knowledge as central for task-shifting. Respondents emphasised that OTs must have good anatomical knowledge of the hand and confidence in identifying differential diagnoses that could potentially be more serious. Lack of knowledge lead to insecurity and hampered successful implementation of task-shifting.

3. **(4) Communication between RTs and OTs:** RTs perceived OTs to be passive in communicating their willingness and competence in caring for this patient group. They expressed a wish for more “self-promotion” from OTs. OTs and RTs viewed communication between them as essential for task shifting. Good communication, understanding and inquisitive conversations acted as facilitators.

4. **(5) The importance of informal interpersonal relationships in the workplace:** Informal interpersonal relationships facilitated trust and subsequent task-shifting between RTs and OTs. Personal relations directly affected engagement in the task-shifting process.

**Conclusion:** The findings show a unanimous wish for HOA care to be shifted from RTs to OTs. Attitudes towards HOA as a diagnosis, interpersonal relationships between RTs and OTs, and knowledge are key facilitators and barriers affecting this process. The findings contribute to the growing body of knowledge on strategies used to optimise health care services and can be used in the design and implementation of new care pathways for patients with HOA.

**REFERENCE:**


**Disclosure of Interests:** None declared

**DOI:** 10.1136/annrheumdis-2022-eular.4999

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**Table 1. Study outcomes at end-point (3 months)**

<table>
<thead>
<tr>
<th>Primary outcome</th>
<th>Control group (n=101)</th>
<th>Intervention group (n=85)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>no. (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary medication outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQR continuous</td>
<td>75 ± 12</td>
<td>73 ± 11</td>
<td>0.20</td>
</tr>
<tr>
<td>mean ± SD</td>
<td>4.8 ± 4.2</td>
<td>5.3 ± 4.7</td>
<td>0.43</td>
</tr>
<tr>
<td>Secondary clinical outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADAI score</td>
<td>2.5 [1.2 – 4.0]</td>
<td>2.5 [1.5 – 4.2]</td>
<td>0.90</td>
</tr>
<tr>
<td>median (IQR)</td>
<td>0.8 [0.3 – 1.4]</td>
<td>0.6 [0.3 – 1.4]</td>
<td>0.97</td>
</tr>
</tbody>
</table>

**Abbreviations:** no. – number; SD – standard deviation; CQR – Compliance Questionnaire on Rheumatology; BMQ – Beliefs about Medication questionnaire; IQR – interquartile range* Percentage of the total number of participants excluding missing data.