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# Relationship between Kinesiophobia, Foot Pain and Foot Function, and Disease Activity in Patients with Rheumatoid Arthritis

Dr. Laura Ramos-Petersen

Dr. Eva Lopezosa-Reca

University of Malaga

[lauramos.94@uma.es](mailto:lauramos.94@uma.es)



## Rheumatoid arthritis (RA) - Epidemiology

RA is the most common chronic autoimmune disease of the joints.

0.5–1% of the general population.



- Silman AJ, Pearson JE. Epidemiology and genetics of rheumatoid arthritis. *Arthritis Res.* 2002;4 Suppl 3(Suppl 3):S265-72.
- Myasoedova E, Davis JM, Crowson CS, Gabriel SE. Epidemiology of rheumatoid arthritis: rheumatoid arthritis and mortality. *Curr Rheumatol Rep.* 2010;12(5):379–85.



Heritability of RA of 40-50%

# RA - Causes

Women 2:1 vs men 3:1 ratio

Diet



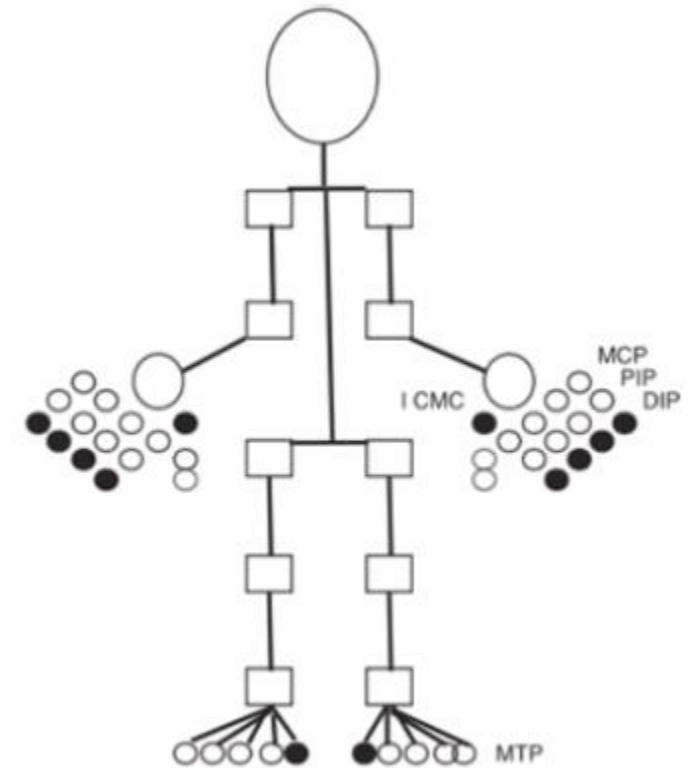
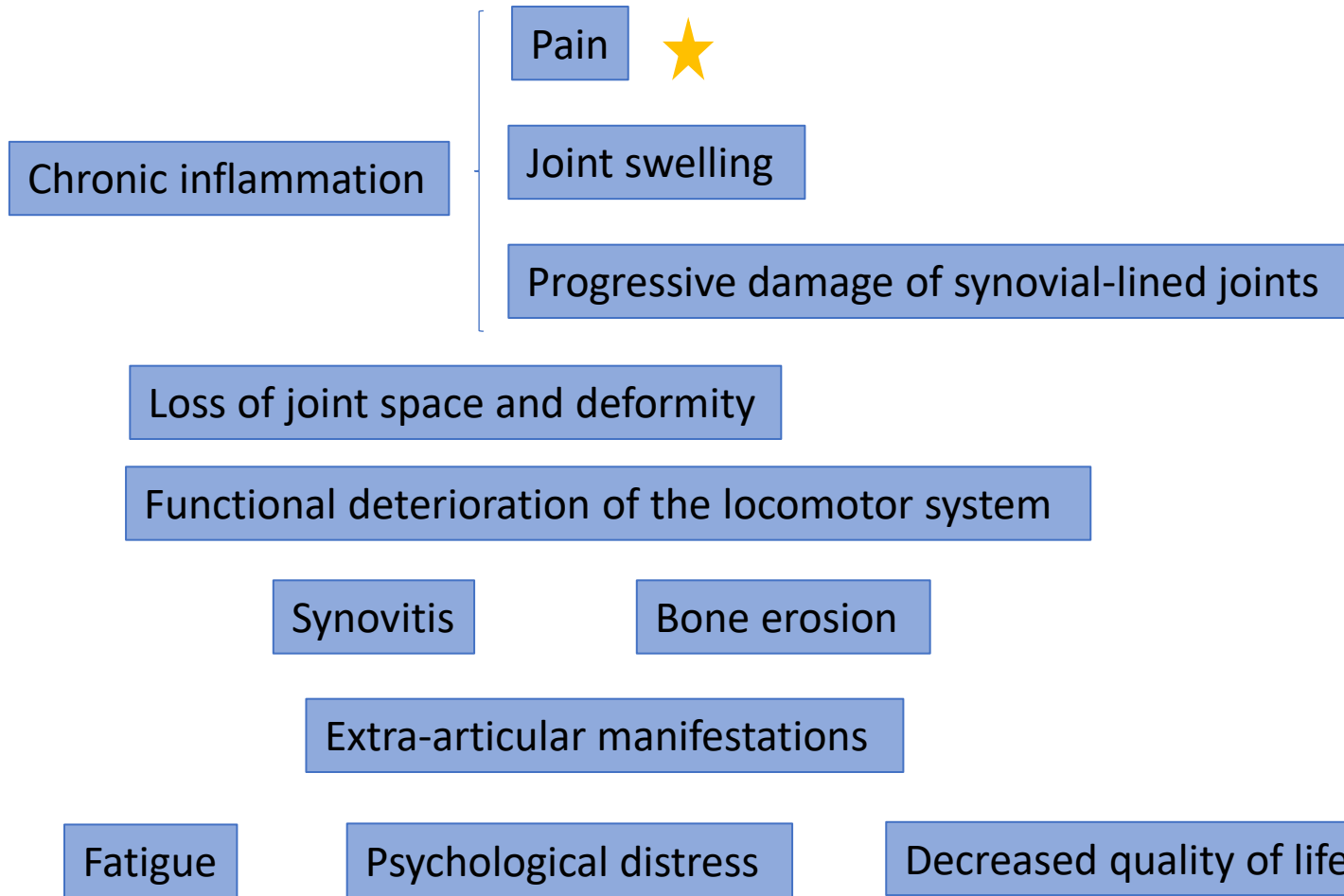
Incidence rises with age



Smoking



# RA - Signs, symptoms and clinical manifestations



Kouroukou, I., Iliopoulou C, Ortiz-Prado E. Diagnosis and classification of rheumatoid arthritis. J Autoimmun. 2014;48-49:26-30

- Nieves AT, Holguera RM, Gómez AP, de Mon-Soto MÁ. Artritis reumatoide. Med Form Médica Contin Acreditado. 2017;12(28):1615-25.

## RA – Foot and Ankle

Foot symptoms are frequent among patients with RA and they are usually severe.

- Foot pain.
- Joint stiffness.
- Deformity.
- Loss of foot function.



- **KINESIOPHOBIA**
- Loss of independence.
- Psychosocial impact of impaired self-image, sexuality and personal relationships.

- Grondal L, Tengstrand B, Nordmark B, Wretenberg P, Stark A. The foot: Still the most important reason for walking incapacitation in rheumatoid arthritis - Distribution of symptomatic joints in 1,000 RA patients. Acta Orthop. 2008;79(2):257–61.



## RA – Physical activity

Physical activity and exercise are considered effective and healthy interventions to improve the signs and symptoms of RA, including physical and psychological.

**COVID-19**

↓ Physical activity  
↑ Sedentary lifestyle

- Azeez, M., Clancy, C., O’Dwyer, T., Lahiff, C., Wilson, F., & Cunnane, G. (2020). Benefits of exercise in patients with rheumatoid arthritis: A randomized controlled trial of a patient-specific exercise programme. *Clinical Rheumatology*, 39(6), 1783–1792.
- RD 463/2020, de 14 de marzo



## Justification

An analysis based on communication and not only on statistically significant data was necessary to understand the problem that this population has suffered.



## Objective:

To explore the experiences of patients with RA during and after a period of inactivity.

To determine the level of kinesiophobia, relating it to pain.



- **Qualitative study + VAS + TSK-11**
- Hospital Virgen de las Nieves, Granada (Spain).
- January – March 2021

INCLUSION	EXCLUSION
<ul style="list-style-type: none"> <li>≥ Over 18 years</li> <li>RA diagnosis</li> <li>Ability to communicate in Spanish</li> </ul>	<ul style="list-style-type: none"> <li>Dementia</li> <li>Other rheumatic diseases</li> <li>Cardiovascular diseases</li> <li>Lower limb surgery or amputation</li> </ul>

- Gómez-Pérez, L., López-Martínez, A. E., & Ruiz-Párraga, G. T. (2011). Psychometric properties of the Spanish version of the Tampa scale for kinesiophobia (TSK). *The Journal of Pain*, 12(4), 425–435.
- Sendlbeck, M., Araujo, E. G., Schett, G., & Englbrecht, M. (2015). Psychometric properties of three single-item pain scales in patients with rheumatoid arthritis seen during routine clinical care: A comparative perspective on construct validity, reproducibility and internal responsiveness. *RMD Open*, 1(1), e000140. <https://doi.org/10.1136/rmdopen-2015-000140>



*What were the physical activity levels and health status of people with rheumatoid arthritis during and after the COVID-19-induced quarantine?*



TSK - 11

Thematic analysis (Clarke & Braun, 2017) → Nvivo software  
Linear regression model → SPSS software

## 124 participants

- 91♀ and 33♂
- 38-81 years of age (mean 59,4)
- RA duration 3-48 years (mean 18,86)

QUANTITATIVE

## 23 interviews

- 18♀ and 5♂
- 44-79 years of age (mean 59,6)
- RA duration 4-40 years (mean 19,04)

QUALITATIVE

# QUANTITATIVE

	Mean (SD)	CI 95%	
Age (years)	59.44 (11.26)	57.38	61.51
Disease duration (years)	18.86 (10.61)	16.92	20.81
VAS-general	5.88 (3.18)	5.3	6.46
Vas-foot	5.84 (3.44)	5.21	6.47
TSK-11_Total	31.77 (7.77)	30.35	33.19

Table 1. Sample characteristics

N=124	PCC	P value
Age (years)	0.262**	0.003
Disease duration (years)	0.102	0.259
VAS-general	0.421**	<0.001
Vas-foot	0.504**	<0.001

Table 2. Total TSK-11 correlation measured with Pearson correlation coefficient (PCC)



## QUALITATIVE

1. Physical activity detriment.

2. Health detriment.

3. Social implications of COVID-19 pandemic.

4. Vulnerability of testing positive for COVID-19 due to rheumatoid arthritis.



## LIMITATIONS OF THE STUDY

Sample composed primarily of women.

## FUTURE LINES OF RESEARCH

Effectiveness of biological treatments after a period of inactivity.  
Increase the sample with more homogeneous participants.



# CONCLUSIONS

- *To explore the experiences of patients with RA during and after a period of inactivity.*

Physical activity should be promoted in all people with RA, even in challenging times, such as a pandemic, to improve disease outcomes, well-being, and mental health, despite functional disability.

- *To determine the level of kinesiophobia, relating it to pain.*

The level of pain is related to the level of kinesiophobia in patients with RA.



Walking together we are stronger



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**THANK YOU FOR YOUR TIME**

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