Lower education level and reduce fish consumption are associated with higher rheumatoid arthritis disease activity: results from the Tatarstan's women cohort.

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To investigate the relationship of education status and disease activity in women with rheumatoid arthritis (RA) and explore the mediating role of environmental factors in this relationship.

Methods:

Data from the prospective Tatarstan women cohort were used. Contribution of the education status (secondary school, specialized secondary school, higher school and university) to the disease activity score using 28-joint assessment (DAS28) was explored and next adjustments for relevant environmental confounders were done regarding factors such as tobacco, alcohol, fish consumption, coffee, tea, DMARDs intake, genetic background (Russians/Tatars), settlement, traffic and industrial pollution.

Results:

When comparing RA patients (n=74), unaffected first degree relatives (FDR) from probands of RA (n=90), and healthy controls (n=92), a lower education level, secondary school and specialized secondary school, was associated with RA development (Odds ratio 1.9 [1.05-3.3], p=0.03). Regarding disease activity in the RA group and after adjustment, low educated patients had moreover 0.9 higher DAS28 (secondary school including specialized school vs high school, p=0.0006 DAS-ESR and p=0.006 DAS-CRP). Next when analyzing cofounder environmental factors from the lower education group, the higher difference in DAS28-ESR (-1.62, p=0.04) was related to fish consumption, which was not the case when exploring the other factors and the highly educated group.

Conclusions:

Higher RA disease activity in lower education patients is associated with reduces sea food consumption.
Accordingly RA therapeutic educational strategies should propose increasing fish consumption, and its impact prospectively evaluated.

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