Assessment of ultra-processed food consumption in rheumatologic patients: a real-world observation at an outpatient clinic

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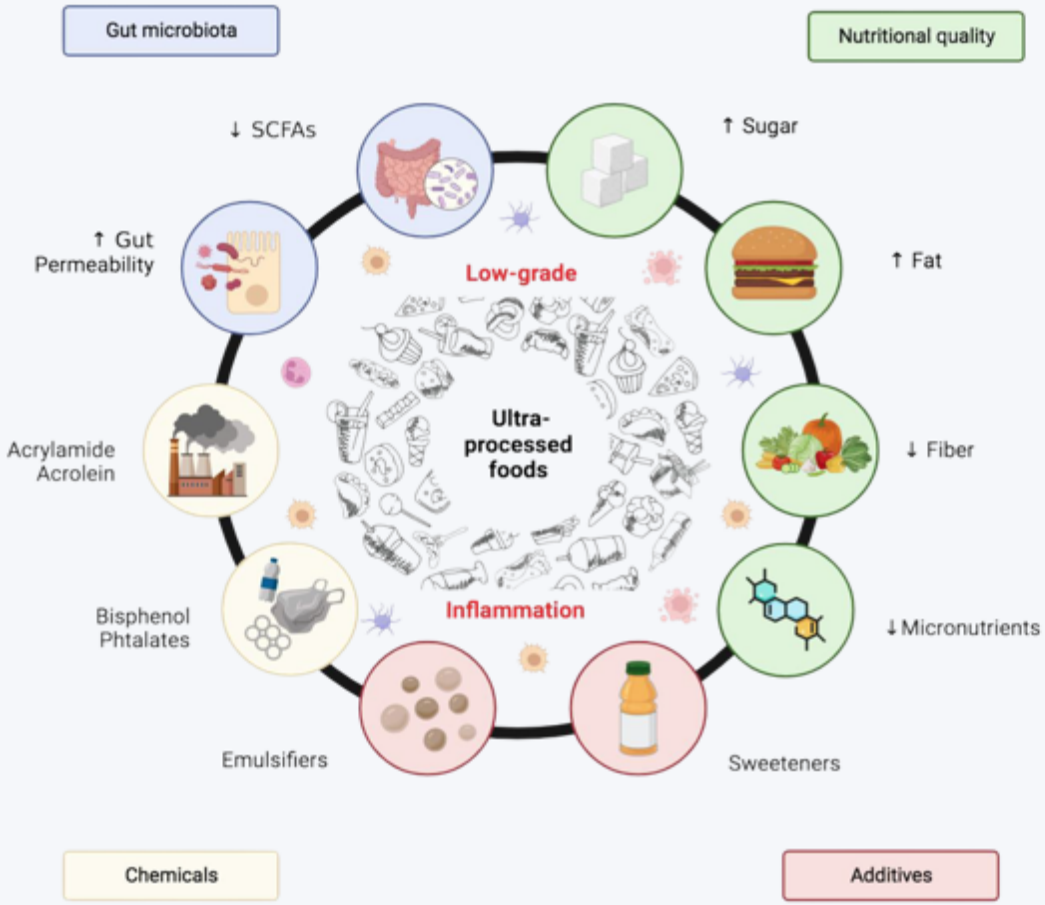
DISCLOSURE

- Non ho alcun conflitto di interessi effettivo o potenziale in relazione a questa presentazione.

INFLAMMATORY POTENTIAL OF UPFs



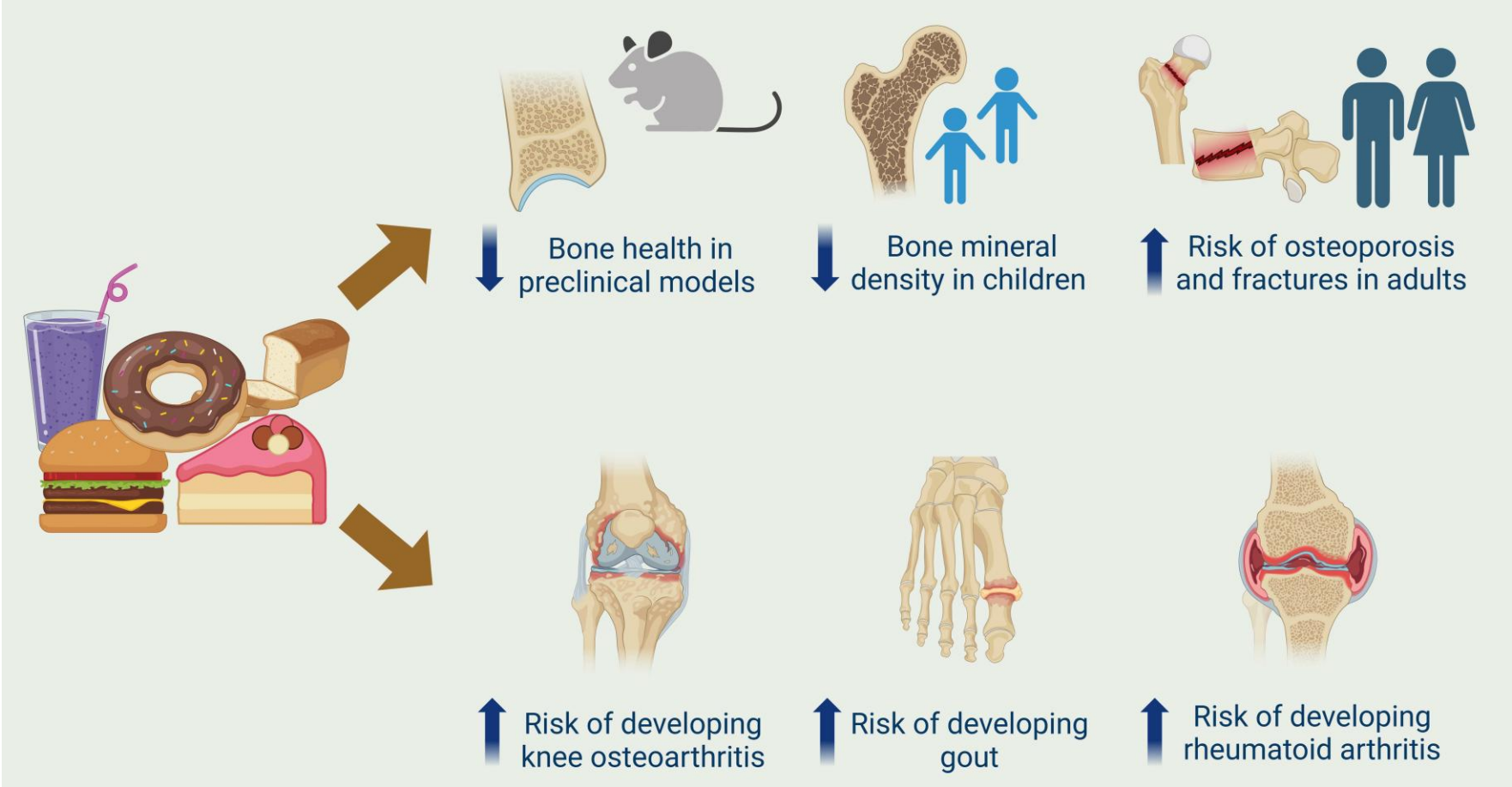
- ↑ **Sugars** → high glycemic index → insulin spikes → visceral fat + gut microbiota damage → endotoxemia
- ↑ **Saturated & trans fats** → activate TLRs → cytokine release (IL-6, TNF-α)
- ↑ **Excess salt** → promotes Th17 polarization → autoimmunity
- ↑ **Additives & emulsifiers** → impair gut barrier & alter microbiota
- ↑ **High-temperature processing (AGEs)** → oxidative stress, cellular injury

Chronic low-grade inflammation

Tristan Asensi M et al. *Nutrients* **2023**,*15*, 1546.

Ultra-Processed Food and Its Impact on Bone Health and Joint Diseases: A Scoping Review

- ✓ A total of 19 studies were included: 12 on bone health, 3 on osteoarthritis, and 4 on inflammatory arthritis.
- ✓ Preclinical studies showed that UPF consumption negatively affects bone structure and strength.
- ✓ In inflammatory arthritis, UK Biobank data indicated a higher risk of RA and gout in UPF consumers, while a Brazilian study reported worse metabolic profiles in RA patients.



Ciaffi J et al Nutrients 2025, 17, 1188.

RHEUMATIC DISEASES AND UPFs' INFLUENCE ON PATHOGENESIS

Rheumatoid Arthritis (RA)

Pathogenesis: TNF-α, IL-6, IL-1, IL-17 → joint & bone destruction

❌ High UPFs → high RA risk (+17%), obesity worsens outcomes

☑ Mediterranean diet, omega-3, fiber

Psoriatic Arthritis (PsA)

Pathogenesis: IL-23/IL-17 axis, gut-skin-joint dysbiosis

❌ Western diet → dysbiosis & ↑ systemic inflammation

☑ Mediterranean diet, omega-3, antioxidants, weight loss

Axial Spondyloarthritis (axSpA)

Pathogenesis: HLA-B27, IL-17, TNF-α, enthesis inflammation

❌ High UPFs → ↑ gut permeability, ↑ BASDAI score

☑ Mediterranean diet >6 months, n-3 PUFA, fiber

GLOBAL AND NATIONAL TRENDS ON UPFs CONSUMPTION

- Higher consunption among western countries, youth and urban populations
- increasing consumption since 2002 in South Asia, Middle East and North Africa

- European average daily intake:
  - 12% of food intake
  - 27% Total Energy Intake
- Higher UPF intakes in Netherlands (61%) and UK (53-58%)
- Lower consumption in Romania and Italy

Average daily consumption

- Adults (20–97 yrs): 17.3% energy from UPF
- Youth (5–19 yrs): 25.9% energy from UPF

Dicken SJ et al. *Nutrition Research Reviews*. 2024;37(2):416-456.

AIM OF THE STUDY

Quantify patients's consumption of UPFs

Assess patients' dietary habits and related sustainability

Provide a rationale for the development of future multidisciplinary management of these patients

STUDY PROTOCOL

- **Design**: Exploratory Cross - Sectional study
- **Enrollment**: Feb-Jun 2025
- **Patients**: N=162 volunteers

UOC Rheumatologic University Hospital of Padua

- **Inclusion:**
  - 20–80 yrs.
  - able to complete questionnaires
  - Diagnosis of PsA (CASPAR), RA (ACR/EULAR 2010) or AxSPA (ASAS)
- **Exclusion:**
  - other rheumatic diseases,
  - Inability to read and write

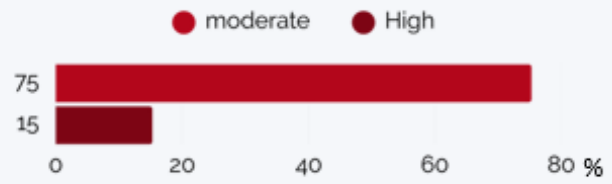
- Demographics + clinical data
- Diet & UPF consumption based on **2 *ad hoc* anonymous self-administered questionnaires:**
  - revised sQ-HPF
  - Combined MEDAS + MedQ-Sus

Data were processed by dietitian and recoded into validated tools

RESULTS

✅ 150 validated questionnaires

MD Adherence (MEDAS score 7.4± 1.0)



High adherence in the consumption of:

- Red meat
- sugary drinks
- Fats

Low adherence in the consumption of:

- Extra Virgin Olive Oil
- Fruit
- Pulses
- Fish and Seafood
- Nuts

GENDER DIFFERENCIES

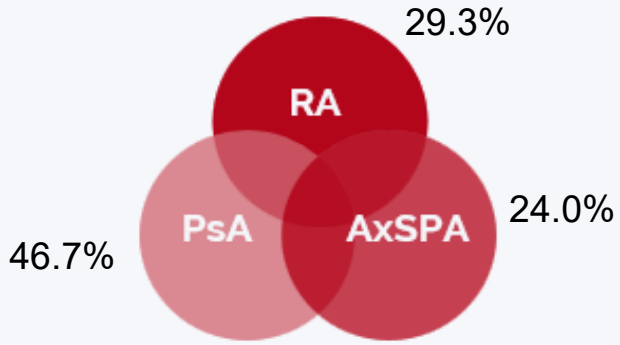
Women 53.3%
Mean age 52.3±15.5 years

Variables (Score values)	Male (n=70)	Female (n=80)	P-value
HPF-TOT	5.30±0.30	5.40±0.30	0.79
HPF-PERC	27.1%	27.6%	0.79
MEDAS	7.40±0.20	7.43±0.20	0.90
MEDQ-SUS (ADHERENCE)	9.90±0.20	9.40±0.20	0.12
MEDQ-SUS (SUSTAINABILITY)	5.48±0.14	5.10±0.14	0.03

No significant differences in UPF consumption or MD Adherence

Men report higher sustainability than women

DISEASE TYPE

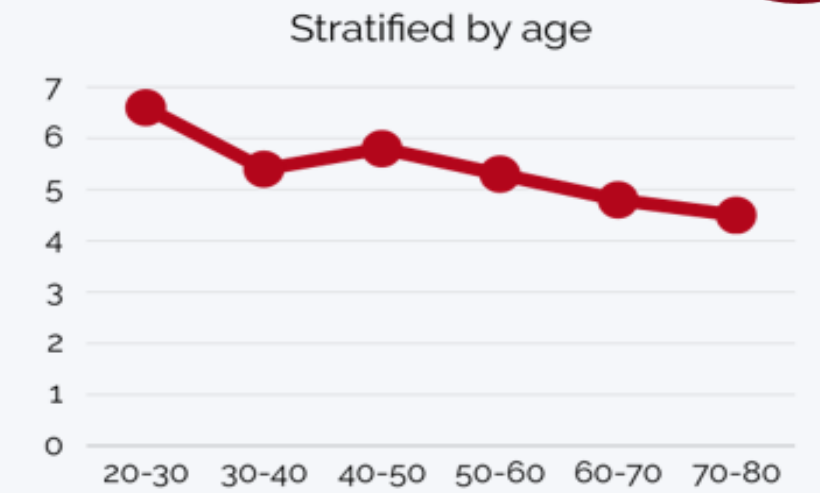


No statistically significant differences have been observed among pathology stratification of the results

RESULTS

SQ-HPF QUESTIONNAIRES

27.3% UPFs' Daily intake



- Significant decline with age

Youngest (20-30): 6.6±0.5

Oldest (70-80): 4.6±0.6

Primary Drivers of High HPF Score

- Seasoning fats – 82% of participants
- Cured meats – 74.7%

Other High-Prevalence UPFs

- Sugary foods – 59%
- Alcoholic beverages – 55.3%
- Refined cereals – 48.3%
- Fried foods – 41.3%

Gender-Specific Patterns

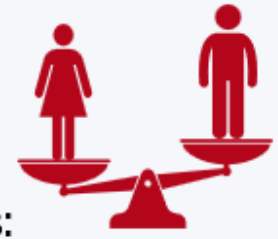
- Alcohol: Women 61.4% vs. Men 38.6%
- Processed animal-origin seasoning fats: Women 57.7% vs. Men 42.8%

STRENGHTS

Modified, easy-to-use questionnaires

➡ High Completion Rate: 92.6%

Identify UPF consumption among rheumatologic patients in real word setting



Gender Diferences:

Men: Higher diet-related Sustainablity

➡ Social position bias?

Age & UPF Consumption:

- Youngest (20-30) consume MORE UPF (32%)
- UPF intake in the cohort > Avg Italian population (32-24% VS 17,3%)

Disease Type (PsA, RA, AxSpA):

Possible higher consumption in women with RA ➡ priority group for nutritional intervention

LIMITATIONS

- Cross-sectional design (no causality)
- Self-reported questionnaires (recall & desirability bias)
- Exclusion of severe patients due to pen-and-paper format
- Limited geography (Padua, Italy)

CONCLUSIONS

- Rheumatic patients show high UPF consumption, especially young adults
- Findings support the need for targeted nutritional education & future intervention trials to reduce UPF intake and improve long-term outcomes

Grazie per l’attenzione