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#### THU0072 RISK OF REVISION, PROSTHETIC JOINT INFECTION AND DEATH FOLLOWING TOTAL HIP OR KNEE ARTHROPLASTY IN PATIENTS WITH RHEUMATOID ARTHRITIS – A NATIONWIDE COHORT STUDY FROM DENMARK

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**Background:** Studies have shown that rheumatoid arthritis (RA) patients are at increased risk of prosthetic joint infection (PJI) but with non-uniform results for mortality risk, following total hip and knee arthroplasty (THA and TKA, respectively). The impact of biological DMARD (bDMARD) treatment on the risk of these outcomes is unknown.

**Objectives:** To investigate the risk of revision, PJI and death following THA and TKA in 1) RA compared with osteoarthritis (OA) patients and 2) RA patients treated with bDMARDs compared with those not.

**Methods:** Register-based cohort study linking the National Patient Register, DANBIO, Danish Hip Arthroplasty Register and Danish Knee Arthroplasty Register.

**Follow-up:** from date of THA/TKA to date of any of the outcomes, to 10 years of follow-up or end of 2014, whichever came first.

**Statistics:** Fine-Gray competing risks analyses to calculate confounder adjusted sub-Hazard Ratios (aSHR) with 95% confidence intervals (95% CI) for revision and PJI; Cox proportional hazard models to calculate aHR for risk of death.

**Results:** We identified 3913 RA and 120 499 OA patients. In DANBIO, 360 bDMARD and 1586 not-bDMARD treated RA patients were eligible for analysis. See Table for results.

**Conclusions:** We report an increased risk of death and PJI but a lower risk of revision in patients with RA compared with OA following THA and TKA. In RA patients, prednisolone, but not bDMARD treatment within the year prior and/or following THA and TKA was associated with an increased risk of death.

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#### THU0073 FACTORS ASSOCIATED WITH TREATMENT ADHERENCE IN RHEUMATOID ARTHRITIS: A SYSTEMATIC LITERATURE REVIEW

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**Background:** Nonadherence to treatment in rheumatoid arthritis (RA) has been shown to negatively impact on treat to target goals and disease outcomes. Identifying and targeting potential factors influencing nonadherence is therefore crucial in optimising patient management.

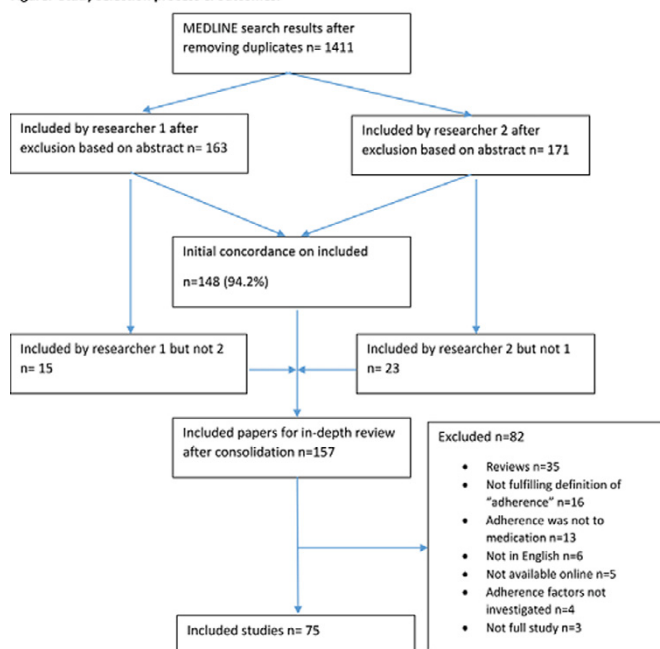
**Objectives:** To determine factors associated with nonadherence in patients with RA.

**Methods:** An electronic search was performed by two independent reviewers

using MEDLINE and focusing on articles published from inception to January 2017. The search strategy combined the thesaurus (MeSH) and expanded keyword searches of two concepts: RA and treatment adherence. Inclusion criteria included observational studies and clinical trials examining potential factors associated with nonadherence. Exclusion criteria included articles not in English or without online access and those with a focus on forms of therapy other than medication. Agreement between raters at the screening stage was high (97%, kappa=.87).

**Results:** The primary search yielded 1411 papers, from which 75 were eventually identified as suitable for full review (Figure). Of the 75 papers, 65 were based on observational studies and 10 on clinical trials. Factors associated with nonadherence were broadly categorized into patient-related factors (socio-demographic factors, patient perceptions [beliefs/knowledge/attitudes]), disease-related factors (disease duration/severity, comorbidities, functional disability) and treatment-related factors (drug type/ method of administration/duration/regimen complexity, combination therapy). The majority (70% of all included studies) of studies reported significant associations between patient-driven factors and nonadherence. Adherence was found to be negatively associated with socioeconomic status, health literacy, and beliefs/perceptions/knowledge of the disease and treatment. Studies reported poorer mental health state (n=6) and greater disability/pain (n=7) to be implicated in nonadherence. Disease duration was largely non-significant in treatment adherence, although a few studies reported a negative correlation (n=3). Combining biologics with DMARDs was associated with improved adherence. However, considering non-biologic DMARDs only, adherence rates were higher amongst monotherapy users. One study identified polypharmacy to be negatively associated with adherence. Drug side effects were associated with nonadherence (n=7).

Figure. Study selection process & outcomes.



**Conclusions:** Patient-related factors including personal perceptions were among key contributors to nonadherence to medication in RA patients. This highlights the need for addressing patient-driven perceptions, along with disease and treatment

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**Abstract THU0072** – Table 1. aSHRs and aHRs for risk of revision, PJI or death following THA/TKA in patients with RA compared with OA; and bDMARD treated RA patients compared with not-bDMARD treated, respectively

	RA (n=3913) vs OA (n=120 499)			bDMARD (n=360) vs no bDMARD (n=1586)		
	Revision aSHR (95% CI)	PJI aSHR (95% CI)	Death aSHR (95% CI)	Revision aSHR (95% CI)	PJI aSHR (95% CI)	Death aSHR (95% CI)
RA vs OA	0.71 (0.57–0.89) <sup>†</sup>	1.84 (1.55–2.18) <sup>†</sup>	1.58 (1.48–1.70) <sup>†</sup>	–	–	–
bDMARD treated <sup>§</sup>	–	–	–	0.99 (0.40–2.42)	0.94 (0.42–2.12)	0.97 (0.62–1.51)
Age at surgery	0.98 (0.98–0.98) <sup>†</sup>	1.00 (0.99–1.00)	1.09 (1.09–1.09) <sup>†</sup>	1.01 (0.98–1.03)	1.00 (0.97–1.02)	1.10 (1.08–1.12) <sup>†</sup>
Previous infection w/ hospitalization	1.48 (1.34–1.64) <sup>†</sup>	1.70 (1.53–1.90)	1.50 (1.45–1.56) <sup>†</sup>	0.94 (0.38–2.36)	1.56 (0.83–2.94)	2.14 (1.51–3.02) <sup>†</sup>
Chronic obstructive pulmonary disease	1.17 (0.99–1.37)	1.32 (1.11–1.56)	1.96 (1.86–2.06) <sup>†</sup>	2.26 (0.77–6.64)	1.19 (0.41–3.45)	1.08 (0.63–1.86)
Seropositive RA (seronegative as ref.)	–	–	–	1.33 (0.31–5.67)	4.54 (0.65–31.67)	1.92 (0.92–3.97)
csDMARD treated <sup>§</sup>	–	–	–	0.77 (0.33–1.81)	1.04 (0.53–2.02)	0.65 (0.44–0.96) <sup>†</sup>
Prednisolone treated <sup>§</sup>	–	–	–	1.72 (0.80–3.70)	1.18 (0.54–2.58)	1.88 (1.28–2.76) <sup>†</sup>

\*Multivariate models were further adjusted for sex, calendar period (2000–02; 2003–05; 2006–08; 2009–11; 2012–14), DAS-28-CRP (remission, low; moderate or high DAS according to EULAR Remission Criteria), HAQ-DI and history of diabetes mellitus or ischaemic heart disease. <sup>†</sup>p<0.05. <sup>§</sup>Exposure defined as treatment in year prior and/or following surgery. Abbreviations: csDMARD, conventional synthetic DMARD; DAS28-CRP, Disease activity score using 28-joint count and C-reactive protein.