



Supplementary Material

Table S1. The Search Strategy Consisted of Terms Related to AD and ACTD.

Search string
The search was conducted using the following search terms: (Atopic Dermatitis OR Eczema) AND (Dermatomyositis OR Polymyositis OR Idiopathic Polymyositis OR Polymyositides OR Systemic scleroderma OR Systemic Sclerosis OR Systemic lupus erythematosus OR Lupus OR SLE OR Sjogren's syndrome OR Sjogrens syndrome OR Sjogren syndrome OR Sjögren's syndrome OR Sjögrens syndrome OR Sjögren syndrome OR Sjoegren's syndrome OR Sjoegrens syndrome OR Sjoegren syndrome OR Mixed connective tissue disease OR MCTD OR Ankylosing spondylitis OR Ankylosing Spondylarthritis OR Bechterew's Disease OR Bechterews Disease OR Bechterew Disease OR Morbus Bechterew OR Spondylarthritis Ankylopoietica OR Rheumatoid arthritis OR RA).

Table S2. Newcastle-Ottawa Scale (NOS) Quality Assessment.

COHORT										
Source	Selection				Comparability (age and sex)	Outcome			Quality Score	
	Representativeness of exposed cohort	Selection of non- exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study		Assessment of outcome	Follow-up long enough for outcomes to occur	Adequacy of follow-up of cohorts		
Schmitt et al. (2015)	*	*	*	*	**	*	*	*	*	9
de Lusignan et al. (2022)	*	*	*	*	**	*	*	*	*	9
Krishna et al. (2019)	*	*	*	*	**	*	*	*	*	9
Lai et al. (2015)	*	*	*	*	**	*	*	*	*	9
Wei et al. (2014)	*	*	*	*	**	*	*	*	*	9
Fuxench et al. (2023)	*	*	*	*	**	*	*	*	*	8
Ahn et al. (2024)	*	*	*	*	**	*	*	*	*	9
CROSS SECTIONAL										
Source	Selection				Comparability (age and sex)	Outcome			Quality Score	
	Representativeness of the sample	Sample Size	Non-respondents	Ascertainment of exposure		Assessment of outcome	Statistical test			
Andersen et al. (2016)	*			**	**	**	*	*	*	8
Narla et al. (2018)	*			**	**	**	*	*	*	8
Roh et al. (2021)	*			**	**	**	*	*	*	8
Radtke et al. (2017)	*			**	*	**	*	*	*	7

CASE CONTROL									
Source	Selection				Comparability (<i>age and sex</i>)	Ascertainment of exposure	Exposure Same method of ascertainment for cases and controls	Non-Response rate	Quality Score
	Adequate case definition	Representativeness of the cases	Selection of Controls	Definition of Controls					
Ivert et al. (2021)	*	*	*	*	**		*	*	8
Wu et al. (2014)	*	*	*	*	**		*	*	8