

METHODS

- Systematic review performed in accordance with PRISMA guidelines
- Registration #: PROSPERO: CRD42018103564

Search strategy

- PUBMED, PsychINFO, SCOPUS, and Cochrane up to July 25th 2018

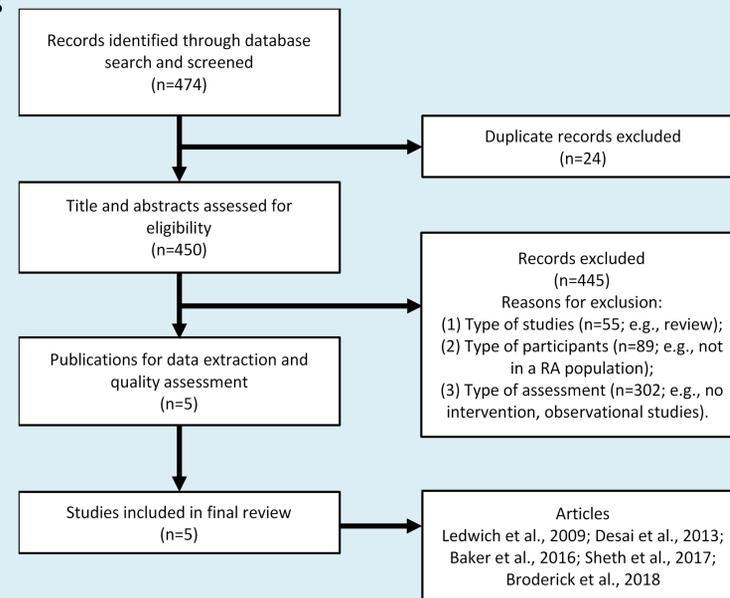
Inclusion criteria

- Studies reporting:
 - results of interventions to improve vaccination uptake in RA pts
 - behavioral interventions targeting health care providers (HCPs) and/or patients
 - pre- and post-intervention measures of vaccination
 - no restriction on vaccine type
 - English or French publications in peer-reviewed journals

Study quality

- Downs & Black checklist, a 27-item rating system

Flow Diagram



INTRODUCTION

- National guidelines emphasize the importance of immunization for people living with rheumatoid arthritis (RA) (Bombardier et al., 2012)
- Vaccination rates remain suboptimal in this population, averaging 25 - 59% (Hmamouchi et al., 2015)

AIM

- To systematically review studies examining the efficacy of interventions designed to improve vaccination rates among RA patients and identify features and types of interventions associated with the greatest efficacy.

RESULTS

First author	Ledwich	Desai	Baker	Sheth	Broderick
Intervention Study Details					
Sample	HCP (n not reported)	Rheumatologists (n=14)	Rheumatologists and primary care physicians (n=8)	Physicians and staff (n not reported)	Rheumatologists (n not reported)
RA patients	758	3717	1255	1554	197
Intervention	EHR best practice alert	Point-of-care paper reminder forms	Reminders to prescribe vaccination, feedback and letters to patients	EMR, Pt and staff education, feedback and assessment	EMR, e-mail reminders for patients
Post-evaluation period	Did not report	Assessed monthly for 16 months	Assessed monthly for 12 months	Did not report	Assessed every 3 months for 12 months
Pre-intervention measures	Vaccination rates: 47% (I); 19% (P)	Up-to-date (P): 67.6% (control: 52.3%)	Vaccination rates 90.2% (I); 28.7% (P)	Vaccination rates 10.1% (H)	Frequency of any missed (I): 47%
Post-intervention measures	Vaccination rates: 65% (I); 41% (P)	Up-to-date (P): 80%* (control: 52.0%)	Vaccination rates 86.1% (I); 45.8% (P)	Vaccination rates 51.7% (H)*	Frequency of any missed (I): 23%*
Study quality§	11	14	15	13	15
Intervention Components (according to Michie's Behavior Change Taxonomy†)					
Feedback on behavior (2.2)			√	√	
Monitoring of outcomes behavior without feedback (2.5)	√			√	√
Instruction on how to perform the behavior (4.1)				√	√
Pharmacological support (11.1)	√	√	√	√	√
Adding objects to the environment (12.5)		√	√‡		√‡

*Pre-Post p≤0.01; § 28 as maximum score, Downs & Black, 1998; † Michie et al, 2013; ‡Patients only (I): influenza; (P): pneumococcal; (H): herpes zoster; EHR: electronic health record; EMR: electronic medical record

ACKNOWLEDGEMENTS

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CONCLUSION / IMPLICATIONS

- Interventions targeting HCPs (two studies also targeted patients) seem effective in improving vaccination rates in RA patients. However, all studies were low or moderate quality.
- Adding more intervention components related to behavior change (Michie et al., 2013) show more pre-post mean improvement ranging from 17.5% (fewer than 2 components) to 19.9% (more than 2 components).
- Results will be used to develop a low-cost, evidence-based training program designed to enhance HCPs 'behavior change counselling skills' to improve vaccination rates among vaccine-hesitant RA patients.

