The uptake of pneumococcal vaccination among outpatients with autoimmune rheumatic diseases

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1. Introduction

Patients with autoimmune rheumatic diseases (ARDs) are at increased risk of developing infections due to the immunomodulatory effects of autoimmunity or to immunosuppressive agents used in their treatment. Scientific societies in many countries have developed practice guidelines and/or recommendations aiming to improve vaccination rates among patients with ARDs, especially against pneumococcal disease. The aims of this study were to assess the pneumococcal vaccination uptake among ARD outpatients and to identify the factors influencing immunization uptake.

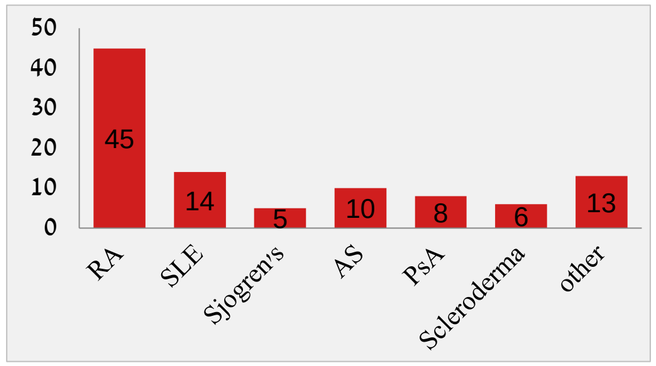
2. Methods

We audited a sample of consecutive patients attending hospital rheumatology outpatient clinics by clinical questionnaire and medical record perusal.

3. Results

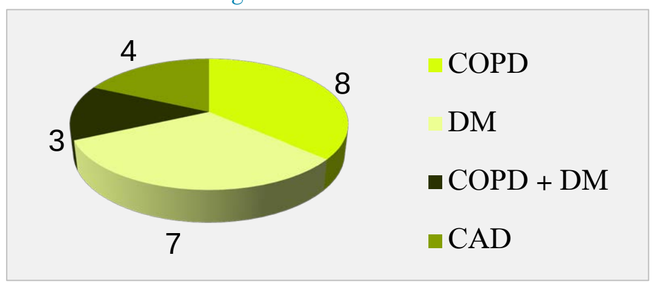
During the study period (8 weeks), 101 patients (median age, 56 years, females 69%) were enrolled. Most of them were diagnosed with rheumatoid arthritis (45 patients), systemic lupus erythematosus (14 patients), ankylosing spondylitis (10 patients), psoriatic arthritis (8 patients). (figure 1)

Figure 1. Patients with ARDs enrolled



Most patients (92%) were receiving immunosuppressive agents, most commonly combination of corticosteroids and disease-modifying anti-rheumatic drugs (DMARDS) (31%), followed by DMARDS (20%), rituximab (14%) and biologic agents (12%). Twenty two patients had additional risk factors for Pneumococcal disease; 8 patients suffered from COPD, 7 from diabetes, 4 from coronary artery disease, and 3 had COPD and diabetes. (figure 2)

Figure 2. Comorbitities



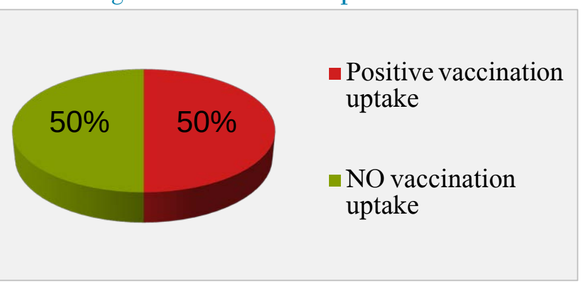
The majority of patients (79%) was aware of the necessity of getting vaccinated against *pneumococcus*.

Table 1:Questionnaire of awareness for pneumococcal infection of ARD patients

Question	% of awareness (95% CI)
1. Does the patient know that due to ARD you are in high – risk group for infections?	79.21 (70.23 – 86.05)
2. Does the patient know that *pneumococcus* cause more frequently infections (e.g pneumonia) in ARD patients?	63.37 (53.63 – 72.12)
3. Does the patient know that WHO suggests pneumococcal vaccination for ARD patient?	60.40 (50.64 – 69.39)
4. Does the patient know that there are very efficient vaccines against *pneumococcus* in the market?	73.27 (63.86 – 80.97)
5. Complete awareness of the questionnaire	**35.64 (26.97 – 45.37)**

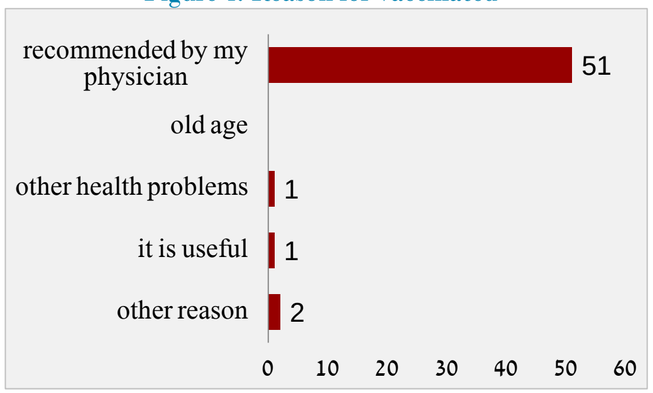
Positive vaccination uptake of our cohort was 50% (51/101). (figure 3)

Figure 3.Vaccination uptake



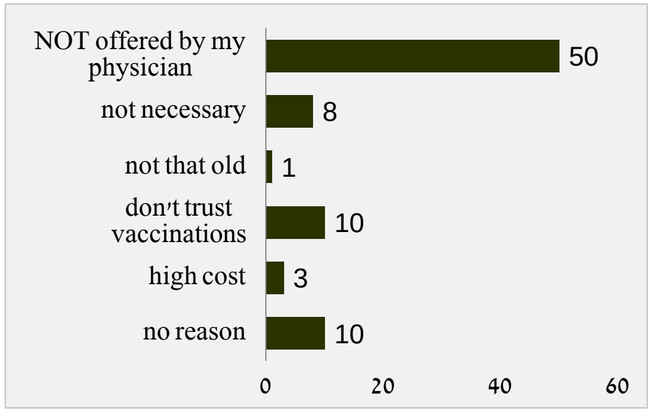
In all 51 vaccinated patients the cited reason was **"recommended by my physician"**. (figure 4)

Figure 4. Reason for vaccinated



The most common reason cited by patients for non-uptake of vaccinations were: **"not offered by my physician"** (50/50). (figure 5)

Figure 5. Reason for NOT vaccinated



The presence of additional risk factors for pneumococcal disease was confirmed as significant in determining vaccination status by logistic regression (OR 6.57, p = 0.002)

4. Conclusion

There is suboptimal uptake of pneumococcal vaccinations among outpatients with ARDs. These results are a cause of concern given the morbidity and mortality of associated infections. Raising awareness amongst patients and physicians seems obligatory.