

# BELgian Cohort study of COVID-19 in Immune Mediated Inflammatory Diseases (BELCOMID): demographics of the dermatology population

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## Background

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) pandemic has recently celebrated its second birthday and still it remains unclear what the exact risk and impact of COVID-19 is on patients with Immune Mediated Inflammatory diseases (IMiDs). Targeted Immune-Modulating Therapies (TIMT) for treatment of IMiDs could interfere with humoral immune response against COVID-19. To analyse exposure to SARS-CoV2 and to map the effect of TIMT on humoral immune response after COVID-19-infection or -vaccination, a Belgian IMiD-cohort was founded.

## Objectives

- To present the BELCOMID-project and -population to the Belgian dermatology community.
- To highlight the demographics of the dermatological IMiD-population in this cohort.

## Methods

- A cross-disciplinary BELCOMID-consortium was developed between the University Hospitals of Leuven and the University Hospital of Ghent.
- All patients with IMiDs of the gut (Crohn's disease, ulcerative colitis and indeterminate colitis), joints (rheumatoid arthritis, psoriatic arthritis and spondyloarthritis) and skin (psoriasis, hidradenitis suppurativa and atopic dermatitis) in clinical follow-up at the participating sites were asked to participate.
- Baseline serum samples were obtained between December 17th, 2020 and February 28th, 2021, before COVID-19 vaccination (n=2165 IMiD patients).
- Sampling was repeated between July 1st, 2021 and September 30th, 2021 (n=1853 IMiD patients).
- Clinical data were collected through a pseudonymised electronic questionnaire (REDCap™).

## Results

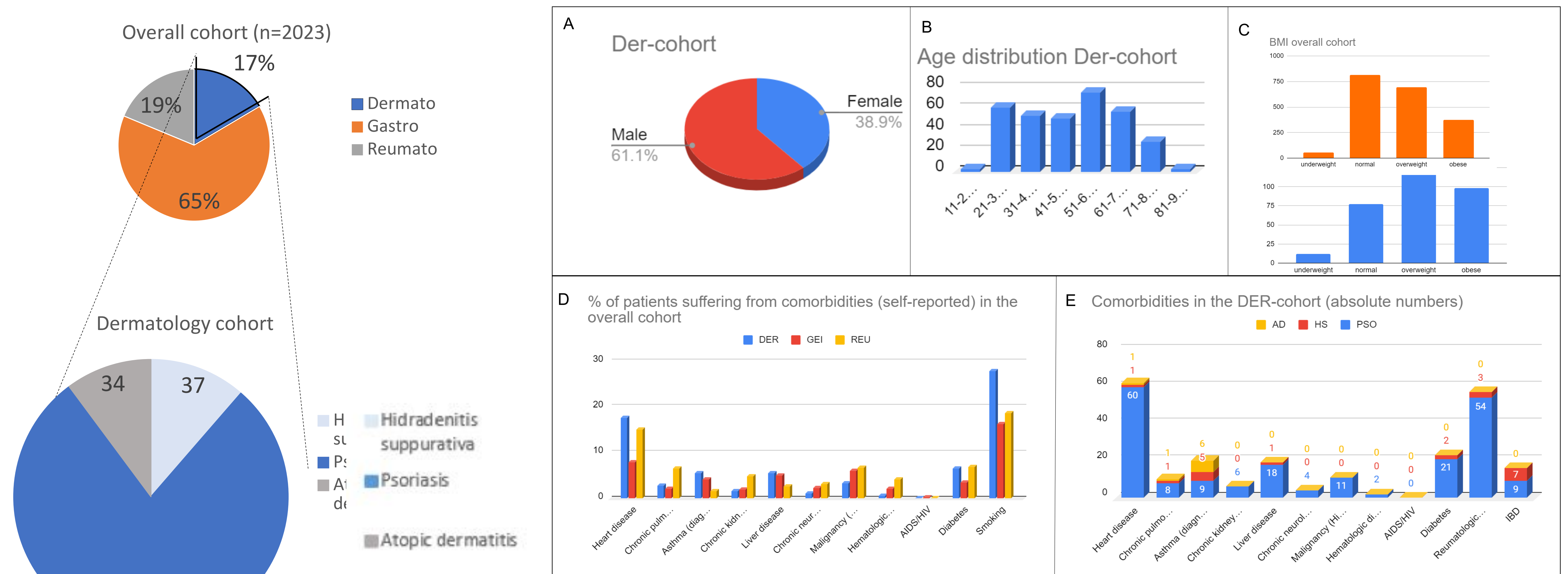


Figure 1: Upper part: Overview of the IMiDs in the BELCOMID cohort. Lower part: Overview of the dermatological patients included in BELCOMID.

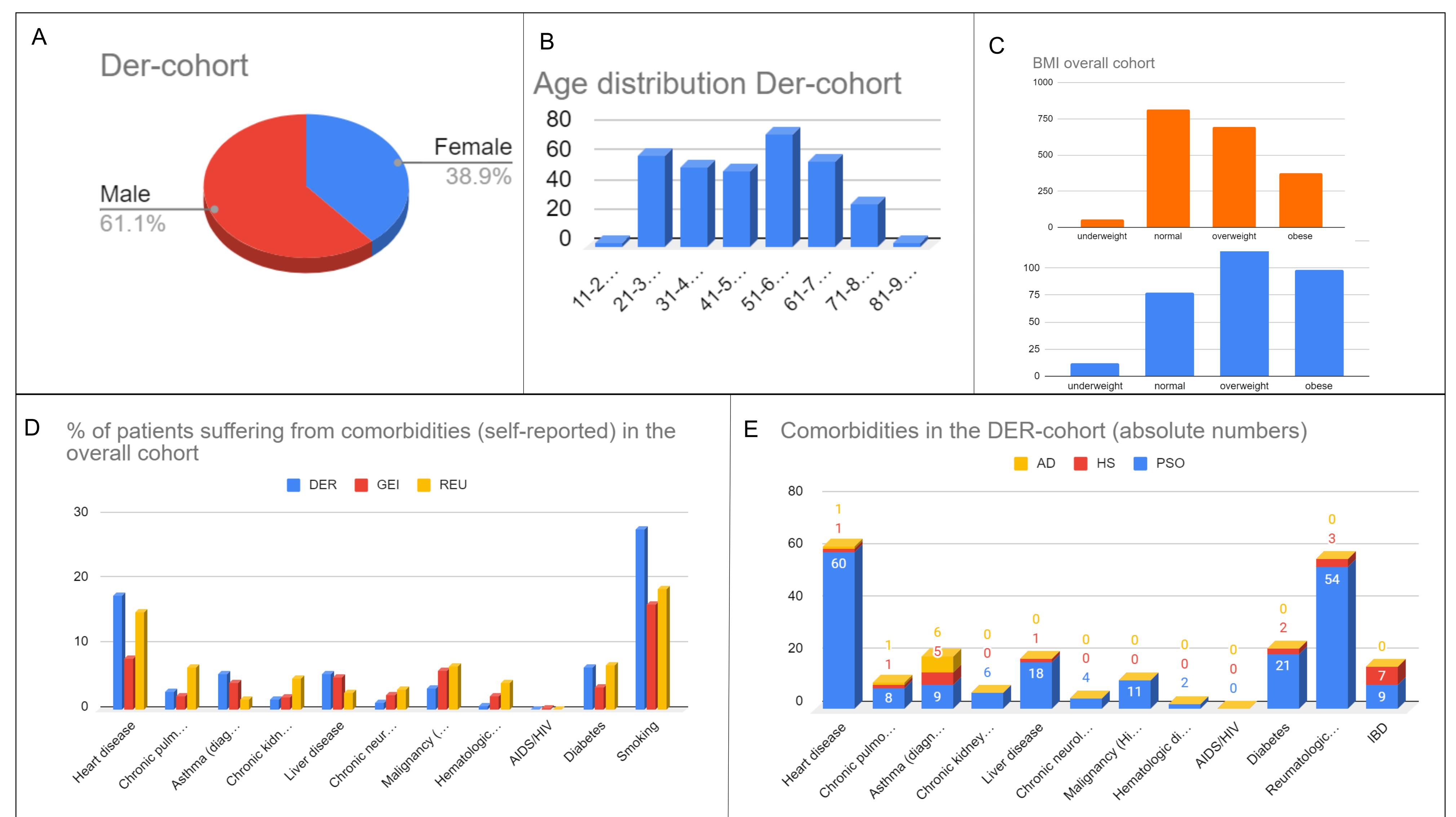


Figure 2: 61,1% of the dermatology-cohort was male (panel A); Age distribution in the dermatology cohort was quite evenly spread between 21 and 70 years old (Panel B). There was a tendency towards more overweight and obesity in the Der-cohort (in blue) compared to the overall cohort (in orange) (Panel C); Percentages of patients reporting to suffer from comorbidities, across the three IMiD-areas: Heart disease, asthma, liver disease and diabetes, but also smoking seem highly prevalent in the Der-cohort compared to other IMiDs (Panel D); Focus on the dermatology-cohort: absolute numbers of patients reporting to have comorbidities (Panel E).

	Pso	HS	AD
Disease severity*: avg (low; max)	PASI: 4.73 (0; 63.9)	Hurley: 2 (1; 3)	EASI: 2.94 (0; 11)
Number of pts treated with biologics** (%)	166 (61,9%)	14 (38%)	24 (70,5%)
Number of pts treated with oral therapy (%)	31 (11,5%)		2 (5,8%)

Table 1. Disease severity scores of patients with Psoriasis, Hidradenitis Suppurativa and Atopic Dermatitis in the BELCOMID-project. PASI: Psoriasis Area Severity Index; EASI: Eczema Area and Severity Index. \*data obtained from patient file; \*\*data obtained from online questionnaire.

## Discussion

- Overall, 2023 subjects were included at baseline in the BELCOMID-project.
- 365 patients with dermatological IMiDs were included in the BELCOMID-cohort. The majority (73,4%) have psoriasis.(Figure 1)
- 61,1% of der-patients in the BELCOMID-cohort are male. Age distribution in the dermatology cohort was quite evenly spread between 21 and 70 years old.(Figure 2: panel A and B)
- 38,5% en 32,2% of the dermatology patients is overweight or obese, respectively.
- Known risk factors for COVID-19 such as active smoking and diabetes were present in respectively 16.6% and 4.5%.(Figure 2: Panel D and E)
- More than 60% of Pso and AD patients, and almost 40% of HS patients were treated with biologics. (Table 1)

## Conclusion

- In this poster we present the BELCOMID-project to the Belgian dermatology community. This project aims to investigate the effect of IMiDs and their treatments on COVID and -vaccination.
- Here we report demographics of the DER-cohort.