

BACKGROUND

Reducing the burden of late-life morbidity requires an understanding of the mechanisms of ageing-related diseases (ARDs), but also of their early healthcare management.

This study aimed at exploring the evolution of age at index admission for ARD to provide better understanding of their management.

BACKGROUND

Database

We used a representative sample (1/97th) of the French National Health Data Information System (SNDS), which gathered medical claims from around 700,000 insured individuals.

Scope of disease

We pre-selected 35 ARDs identified from the literature [1] and grouped them into 10 groups of ARDs, rheumatological diseases, eye diseases, neurological diseases, mental disorders, endocrinal disorders, hemopathy, urothelial disorders, cardiovascular diseases, respiratory disease, and cancer.

ARDs were identified through main diagnoses (ICD-10) reported in inpatient admission claims. Outpatient management was not considered for this study due to missing diagnosis or treatment indications.

Design of the study

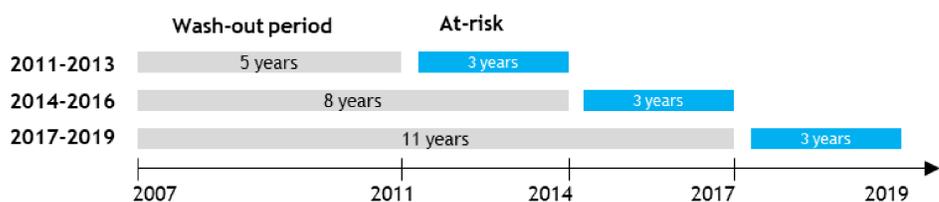
Admissions for the period 2006 to 2019 were scanned to identify index admission for ARD. An admission for a patient with an ARD was considered "index" when a minimum of 5-year wash-out period (period without diagnosis of ARD) was observed. For example, for an index admission identified in 2018, a was-out period of 11 years was ensured (2006-2017). Patients could be included for different ARD groups.

Statistical analysis

Ages at onset of ARD (1st occurrence of admission) were pooled and averaged into three different 3-year periods : 2011-2013, 2014-2016, 2017-2019.

Incident rates and distributions of age at onset of ARD were compared between periods and ARD group.

Figure 1. Design of the study



CONCLUSION

Patients with ARDs tended to be managed earlier at hospital, reflecting a better patient management care and most likely imputable to ambulatory shift. More studies are warranted to understand the mechanisms leading to the diseases of ageing.

References

[1] Kuan V, Fraser HC, Hingorani M, Denaxas S, Gonzalez-Izquierdo A, Direk K, Nitsch D, Mathur R, Parisinos CA, Lumbers RT, Sofat R, Wong ICK, Casas JP, Thornton JM, Hemingway H, Partridge L, Hingorani AD. Data-driven identification of ageing-related diseases from electronic health records. *Sci Rep.* 2021 Feb 3;11(1):2938.

RESULTS

Incidence rates for any ARD ranged from 28.8 to 17.2 per 1,000 patient-year from the period 2011-13 to 2017-19 respectively. Median age at onset of ARDs decreased from 71 years in 2011 to 69 years old in 2019. For most of ARD groups, age at index admission decreased with time, associated to an increasing proportion of ambulatory admission. Early hospital management was particularly significant for cancer, rheumatological diseases, eye diseases, respiratory diseases, and cardiovascular diseases.

Figure 1. Distribution of incidence rates (%) by age (year) and onset period of ARD

