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What can registry data teach us about the pandemic?

EDITORIAL

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Underlying conditions are more common among patients hospitalised for COVID-19 than in the general population. We must use this knowledge from our national registries in the further contingency planning for pandemics.

Nystad and colleagues are now presenting data from the Norwegian Patient Registry, the Municipal Patient and User Registry and the Reporting System for Communicable Diseases for persons 20 years of age or older from the first period of the pandemic (1). The objective of their study was to describe the distribution of various diseases among persons with a confirmed COVID-19 infection (8 125 persons) and among patients hospitalised for COVID-19 (1 025 persons) when compared to the general population.

Among those who tested positive for COVID-19, altogether 94 % were 20 years or older, and 13.4 % were hospitalised. Among those hospitalised for COVID-19 there was a higher prevalence of cardiovascular disease, cancer, type 2 diabetes, chronic obstructive pulmonary disease (COPD), asthma, other chronic pulmonary disease, cancer in active treatment, complications of hypertension, obesity and overweight, neurological disorders and cardiac and renal failure than in the general population. On the other hand, there were few differences between those who had tested positive for COVID-19 and the population as a whole. The data may thus indicate that those who were infected with COVID-19 during the period were largely similar to the population in general, whereas those who needed hospitalisation more often had multiple underlying diseases.

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In the initial phase of the pandemic, which is encompassed by this study, only a selected sample of patients were tested for SARS-CoV-2. This group included persons in risk groups, such as the elderly, multimorbid persons and hospitalised patients. It is thus a little surprising to see the relatively high proportion of young people among those who had tested positive (34 % were younger than 40 years), and that there are only marginal differences in the prevalence of the investigated comorbid conditions between those who had tested positive and the general population.

Even though the hospitalised patients had a higher prevalence of underlying conditions, the differences were not especially prominent. For example, among the hospitalised COVID-19 patients 18.3 % had cardiovascular diseases, compared to 15.6 % in the general population. For COPD, the corresponding figures were 3.8 % versus 2.7 %. In a systematic review of different prediction models for diagnosis and prognosis in COVID-19, the authors advise against using models that are based on frailty scores or general morbidity. Instead, they propose use of a patient-centred approach with variables other than multimorbidity alone to predict a serious course of the infection (2). The findings in the article by Nystad et al. accord with this conclusion. The study from Vestre Viken, Bærum Hospital Trust, about the disease trajectory and use of clinical scoring tools in the first patients who were admitted to the hospital with COVID-19, indicates that NEWS2 (National Early Warning Score 2) could be such a patient-centred tool that can be used to identify those who are at risk of developing a serious course of COVID-19 (3).

We clinicians know from experience that older patients with underlying diseases more often decompensate during acute illness. It is thus not unexpected that a SARS-CoV-2 infection leads to an exacerbation of comorbid conditions (4). Based on the data alone, it is impossible to conclude whether the hospitalised patients in the study by Nystad et al. were admitted to a greater extent than others because of their higher comorbidity or whether the infection took a more serious course in those who had underlying diseases.

In the hospitals we found that in this period, from early March to mid-May, few patients with dementia were hospitalised with COVID-19. This is supported by the registry data. Most likely, this was in part due the practice of treating nursing home residents with dementia in the nursing homes, rather than in hospital (5). Fear of overburdening the hospitals and the possibility of a shortage of intensive care capacity were part of the reason why such an approach was chosen. In retrospect we may ask whether this was the right choice. Experience from hospitals over recent months shows that oxygenation and other forms of supportive care can be sufficient also for elderly patients (6). Potentially therefore, more patients than those who were admitted at the start of the pandemic might have benefited from hospitalisation.

The knowledge that people admitted to hospital with COVID-19 also have more underlying diseases must be factored into the further contingency planning during the pandemic. The importance of comorbidity must be included in the assessment of prognosis, of what is the appropriate treatment and possibly palliative care for COVID-19. To better understand who is infected and who will develop a serious course of disease we need more studies, including more complete registry data. Hopefully, such data will soon be available, now that the criteria for who should be tested are being expanded.

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