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SHORT REPORT

COVID-19 EPIDEMIC IN THE NURSING HOMES IN BELGIUM

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The objective of this report is to describe the characteristics of the COVID-19 pandemic in nursing homes (NH) in Belgium, particularly in the Walloon (or French-speaking) part, and the local measures initiated to meet the urgent needs of this sanitary crisis (1). This narrative review, including an author's critical approach, does not show an exhaustive list of all situations and initiatives.

Belgian Health care organization

Belgium is a relatively small country, which covers 30.688 Km^2 and is organized as a federal state divided in three regions, which includes 11.431.406 inhabitants 6.589.069 (58%) in the Dutch part, 3.633.795 (32%) in the Walloon part, and 1.208.532 (10%) in the Brussels-Capital part (2). From the whole Belgian population, 2.504.716 people are ≥60-year-old (2). The competencies regarding organization and health care systems are divided between the federal competencies including the planification of medical resources (e.g. the number of hospitals, the number of representants of each medical specialty and material and financial resources) and three regional agencies (one for each region) in charge of the health care organization for the older people whether they live at home, in nursing homes or are hospitalized.

Regarding the sanitary resources, a total of 7.462 beds in acute geriatric wards were available in 2019 (4.418 beds for the Dutch part, 2.346 beds for the Walloon part and 698 beds for Brussels-Capital part) (3). In the whole country, the number of beds available in nursing homes (NH) for people older than 60-year-old are around 135.000 (4–6).

Providing some data about sanitary consequences of the COVID-19 crisis

On the 18th of May, the whole country had 55.559 confirmed Covid-19 cases, of which 9.183 in NHs. At that time, 9080 died to Covid-19, of which 4.646 in NHs (7) . According to the density of the population (city or countryside), the characteristics of the residents (number, median age, health and functional status, financial resources), the size and the architectural constraints (one single building or several short blocks, long corridors or several floors), the sanitary crisis was differently perceived from a NH to the other. Indeed some NHs did not register any covid-19 cases whereas others had up to 40% "suspected" covid-19 cases. The global feeling (self-efficiency or overloading) described by the caregivers was not the same across the different NHs.

Federal, regional, and local recommendations and action plans

At the beginning of March, the National Institute of Epidemiology and Infectious Diseases (Sciensano), which depends on the federal healthcare department, launched a website dedicated to the sanitary crisis (8). It has been an efficient communication tool to record and share the epidemiological data and to provide recommendations related to the COVID-19 spread and its sanitary consequences (9).

On March the 10th, the AVIQ (the regional agency in charge of health care organization for older people in the Walloon region) strictly banned visiting NHs residents, except for general practitioners (GP) who were allowed to visit ill residents and to use the real-time reverse transcription polymerase chain reaction (RT-PCR) tests to confirm potential cases. At this time, the NHs did not have received the required personal protective equipment (PPE). Indeed, the federal mask reserve had not been recently updated and the FFP2 and surgical masks order was sent late (closed frontiers and PPE world crisis). At this time, the fear to overload the capacities of the intensive cares and emergencies departments explains that the available PPE material was essentially reserved to hospitals.

On March the 14th, the hospitals started the "Plan d'Urgence Hospitalier" ("PUH" in French), an urgent action plan focused on hospitals that included:

- the reduction of non-urgent activities,
- the organization of the priorities actions and the allocation of human and materials resources to face the sanitary crisis needs,
- the homeworking or the short-time working or the temporary furlough for those having a non-essential job or not allocated to another function related to the sanitary crisis.

In order to avoid an overload of the hospitals, especially the emergencies and intensive care units, sanitary recommendations were:

- to stay at home without contact with other people not living

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in the same household,
- not to come to the hospital without specific recommendations of the GP,
- to call the GP in case of symptoms of COVID-19, without going to the primary care facilities.

These recommendations aligned with the main strategy of the federal government and the regional agencies, and they might explain, at least in part, why the Belgian sanitary system was stressed but never overloaded. Is it important to notice than no recommendation was issued, whether coming from the federal government, the regional agencies or the hospitals not to transfer old patients who needed it to the hospital based on their age or because they were living in NHs. Decision of not transferring were medical, often collegial, and based on previous wishes expressed by the patient or his representants, or based on poor health and functional status meaning poor prognosis (10).

On the 17th of March, the Belgian Prime Minister promulgated a mandatory confinement of the general population (except for essential jobs). Only people showing COVID-19 related symptoms could be tested using a naso-pharyngeal RT-PCR test by their GP or COVID-facilities, e.g. tents installed outside of most of the hospitals.

Since March the 19th, the AVIQ (the regional agency for the French part of the country) shared specific recommendations addressing the situation of the NHs (available in French at https://www.aviq.be/coronavirus.html): no external visits, no social activities, no physical activities, and all meals served in the rooms. However, the lack of individual protection strongly limited the efficacy of the "protection strategy" and the "test strategy" was also not effective to prevent the viral scattering in NHs, because the RT-PCR test were only available in hospitals and for GPs use.

Since March the 20th, the NHs were ordered to register each new case of COVID-19 as "suspected", "confirmed after RT-PCR test" or "deceased". In case of two or more suspected cases, the NH was declared a "cluster", which meant that each additional resident showing symptoms had to be considered as "suspected" and be isolated. The response of the NH depended on the local resources regarding available individual protections, isolation possibilities and needs of medical care.

At the end of March several NHs were in a critical situation, losing several residents, lacking protective equipment and medical support. Some of those NHs got in touch with the closest general hospitals asking for urgent help. Some scientific societies share medical recommendations and a toolbox was written by a multidisciplinary team involving essentially NHs coordinators and GPs and also geriatricians, specialists in infectious disease and psychologists (available in French at http://www.aframeco.be/node/487). Another local initiative was the development of a geriatric mobile team unit, which includes one emergency medicine specialist and one geriatrician. Furthermore, some hospitals have called the NHs they were working with to suggest help measures and try to answer the queries. Finally, some GPs shared their spare time visiting NHs, in order to meet the medical needs when their colleagues were ill or overloaded.

Short final comment

Unfortunately, and even if the first protection measure was dedicated to NHs, the material, the tests and the help came too late for some NHs. Indeed, the first PPE (essentially surgical and FFP2 masks) distribution in NHs started on the 26th of March and the systematic RT-PCR testing was applied to the NHs residents and workers only since the 10th of April. Sadly, without the possibility to discern people who died from the virus or from other causes, and only 23% of the deaths have been COVID-19 confirmed, while 77 % are only "suspected". Therefore, the real impact of isolation, protection, detection, correct diagnosis and care will remain undetermined. Furthermore, the higher all-cause mortality linked to frailty (10) and the higher incidence of frailty (11) and functional decline linked to the general consequences of the pandemic (12) ("COVID-19 Spiraling of frailty syndrome") (13), we can expect a higher rate of death and negative clinical outcomes in Belgium until the end of 2021. Joining efforts (14) to develop a European partnership to gain knowledge and improve care for patients with COVID-19 in NHs is urgently required.

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