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EDITORIAL

COVID-19 IN ITALIAN NURSING HOMES: FROM GUIDELINES TO PRACTICE

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Abstract: The COVID-19 pandemic has pushed the world at urgently elaborating new strategies to cope with the many healthcare issues raising from such unprecedent and complex situation. This article is focused on the many problems faced by Italian nursing homes. In particular, it is described which countermeasures were suggested in the guidelines, and the obstacles encountered in their implementation. It is then explained the importance of reshaping the current "hospital-centered" healthcare system into a more modern model, giving more value to the centrality of the person.

Key words: Geriatrics, aging, prevention, coronavirus, pandemic

The COVID-19 pandemic has been exposing the world population and the healthcare networks to unprecedentedly complex and difficult situations, threatening the sustainability of the systems. The first to suffer from this crisis have been, as usual, the most vulnerable individuals, in particular the frail older persons like those living in nursing homes (NHs).

The emergency situation has led the world to elaborate new strategies and organizations. In Italy, given the regional-based organization of the healthcare system, the adopted interventions against the diffusion of the coronavirus have varied from region to region. These differences may have depended on the pre-pandemic organization, the regional policies, the available resources, the setting where they were applied, and to the severity of the outbreak. In particular, the experience lived by the Italian NHs has been dramatic (1).

The Istituto Superiore di Sanità (ISS; the equivalent of the US National Institute of Health) (2, 3) has published a series of documents offering specific guidelines about the management of suspected and confirmed cases of COVID-19 among residents and staff as well as on the correct use of personal protective equipment (PPE). With these premises, on March 23rd 2020, the APRIRE Network published a document to support the NH personnel in the prevention of the SARS-CoV-2 infection as well as the treatment and care of residents affected by COVID-19 (4). The document has been endorsed by several Italian scientific societies. It stresses the importance of building coordinated multidisciplinary teams for ensuring the development of an adequate strategic plan, inclusive of staff training, PPEs supplying, reorganization of the infrastructure. It is also explained the need of prompt identification of cases among both residents and the staff in order to isolate for the former and define temporary restriction from working activity for the latter. Importantly, every staff member must use PPEs in every activity that implies a contact with the resident. This means surgical masks for routine; for riskier procedures (i.e., those implying prolonged exposure to the resident's secretions), FFP2/FFP3 masks, protective glasses or visor, long-sleeved water repellent gown, disposable nitrile or vinyl gloves, and protective headgear are recommended. Every new admission to NH should be strictly evaluated. The admission of the SARS-CoV-2 in the facility (via an asymptomatic patient, a family member, or an operator) could lead to dramatic consequences. Thus, admissions should be suspended limited to urgent and compulsory cases after proper testing procedures for verifying the absence of infection are implemented. Visits of relatives and caregivers should be reduced (if not suspended), especially for isolated residents.

The ISS conducted a survey (last update on April 14th, 2020) focused on the spread of the SARS-CoV-2 infection in NHs in Italy (5). The survey covered over 2,500 NHs, which had previously participated in an epidemiological observatory describing care facilities devoted to dementia care. Taking advantage of this network, the ISS has been able to obtain a real-life description of the management of COVID-19 in NHs.

Since February 1st 2020, a total of 80,131 persons was reported to live in these NHs, that is a mean of about 74 residents per structure. Among these, 6,773 residents died during the period of observation, with the particularly high events registered in Lombardy (45.0%), Veneto (16.1%), and Piedmont (10.1%). Among the mentioned deceased, 2,360 residents had instead developed flu-like symptoms, and 364 had undergone the nasopharyngeal swab and found to be positive. At the same time, 4,066 residents were admitted to the hospital (i.e., about 4 hospitalizations per structure). These admissions have been motivated by different causes, both for elective procedures and emergencies. Among the hospitalized residents, the total percentage of patients with COVID-19, flu-like/respiratory symptoms, and/or pneumonia was 45.3%. Interestingly, 18.5% of the NH personnel reported a positive result to nasopharyngeal swabs. These figures were highly variable across NHs; they largely varied across the Italian territory, depended on the procedures adopted in each structure,

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and related to the support received from the other knots of the healthcare system (in particular, hospitals).

Most of the NHs reported an overall good adherence to the recommendations received by the ISS. For example, 92.6% of NHs conducted specific training of the personnel about the correct use of PPEs, and the vast majority (about 90%) raise awareness among the residents about the pandemic issue and the required countermeasures. The isolation of detected cases was reported as possible by most NHs (78.8%), whereas 8% was not in the position of adopting this intervention. A regular, twice-per-day measurement of personnel and residents' temperature was assured in 76.3% of the NHs, while almost everyone (i.e., 99.5%) had dispensers of hydroalcoholic gel available.

Despite these encouraging numbers reported in the ISS survey, a tragedy was reported in Italian NHs, because of the high mortality and the often-inadequate management of pandemic situation. The main problem was the discrepancy between the theory (that reported in the ISS survey) and the crude practice (the real life). As an example, whereas the training programs on the correct use of PPEs had almost everywhere conducted, more than 80% of the NHs reported the lack of the devices. In other words, every NH operator perfectly knew how to use a mask, but had no mask to wear…

Similarly, although hospital admissions from NHs were reported, it has not been rare the case of residents with acute (even respiratory) conditions refused by Emergency Departments overwhelmed by the COVID-19 tsunami. This has sometimes meant leaving coronavirus cases in facilities where 1) the frailest individuals are hosted, and 2) preventive countermeasures against the dissemination of the infections were weak.

It is also important to know that NHs have often represented a setting of care neglected and disconnected from the rest of the healthcare system. This means that the information about the correct procedures to follow (and even the communication related to the severity of the situation) might have arrived with unjustifiable delay. Consistently, a terrible delay has occurred in the provision of material for testing patients and operators. The impossibility to promptly identify cases (especially those with no or very mild symptoms) has contributed at disseminating the coronavirus for many days (if not weeks); when the number of infections then started to exponentially increase, it was too late to limit the outbreak.

Furthermore, there has been the case of a law passed by the local government of the Lombardy region facilitating the discharge of hospital patients towards NHs in the most critical moment of the coronavirus outbreak. The decision was motivated by public health authorities by the need of reducing the pressure to Emergency Departments and hospitals. However, there is the possibility (currently under investigation by legal authorities) that this action might have disseminated the coronavirus from the hospitals to NHs, via 1) patients who had not been adequately tested as negative, 2) asymptomatic cases of COVID-19, and/or 3) receiving facilities structurally unprepared at accepting patients at risk of being infected (e.g., living a shortage of PPEs/personnel, with limited spaces for eventual isolation).

A role in the catastrophe might also have been played by the shared staff often working in different NHs and care facilities. Operators have sometimes served as asymptomatic vectors of the SARS-CoV-2 across different infrastructures. It has also not to be underestimated the high number of operators infected by SARS-CoV-2, on sick-leave for suggestive symptomatology, or also absent from work in the most critical moments. The shortage of personnel has complicated an already complex situation.

Overall, the dramatic Italian experience reported in NHs indicates the complete failure of a "hospital-centered" healthcare system where NHs act as passive actors. To ensure the sustainability of the system, it is crucial that the consequences of the COVID-19 pandemic will not be forgotten, but used as the background for reshaping our care models in a more person-tailored way. In this context, the role of primary care and long-term care will necessarily be reconsidered and more value should be provided to them (6).

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