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# Specific approaches to patients affected by dementia and covid-19 in nursing homes: the role of the geriatrician

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## ABSTRACT

The coronavirus disease 19 (COVID-19) is relevant in older people. Attention was given to the nursing homes in which frailer people are usually admitted. In this review, we discuss the approaches for daily problems found in nursing home as geriatricians and potentially new research directions. We start with the problem of the older people affected by dementia and Behavioral and Psychological Symptoms of Dementia for which also the execution of a simple diagnostic test (such as nasopharyngeal swab) could be problematic. Another important problem is the management of wandering patients for which the re-organization of the spaces and vaccination could be the solutions. The relationship with families is another important problem, also from a medico-legal point of view, that can be faced using video conferencing tools. Moreover, we discussed the importance of stratifying prognosis in older nursing home residents for the best management and therapeutically approach, including palliative care, also using telemedicine and the inclusion of prognostic tools in daily clinical practice. Finally, we approached the therapeutical issues in older people that suggests the necessity of future research for finding older-friendly medications.

## 1. Introduction

In March 2020, the World Health Organization (WHO) declared the coronavirus disease 19 (COVID-19) outbreak as global pandemic (Jebri, 2020). During 2020, more than 83 million people were affected by coronavirus-19 disease (COVID-19), with about two million of deaths (World Health Organization, 2021). We can actually consider COVID-19 as a condition typical of older people. Epidemiological data suggested that the mortality rates are extremely high in older persons and that the prevalence of COVID-19 is more elevated in older compared to younger persons (Onder et al., 2020).

A particular interest was given to the COVID-19 outbreak in nursing homes (Burton et al., 2020; McMichael et al., 2020; Trabucchi and De Leo, 2020). First, nursing homes commonly include people that are particularly frail. Moreover, even if less than 10 % of all COVID-19 cases are observed in nursing home, nursing home residents accounted for more than one third of the all deaths recorded (European Team Eurosurveillance, 2020; Weinberger et al., 2020). In several countries, the COVID-19 epidemic in nursing home was felt as tragedy, not only for the residents, but also for the families and health professional involved that often reported to be abandoned (Bernabeu-Wittel et al., 2020; Trabucchi

and De Leo, 2020).

Given this epidemiological scenario, we would like to report our experience as geriatricians, indicating some relevant specific approaches for daily problems as reported in Table 1.

## 2. Clinical issues in nursing home: the geriatrician's perspective

One of the most important problems that we have faced in our daily clinical practice is the management of dementia during the COVID-19 outbreak, particularly if associated with BPSD (Behavioral and Psychological Symptoms of Dementia). COVID-19 has further worsened the presence and the entity of BPSD. For example, in one large Italian study, about 60 % of patients reported a significant increase in BPSD or the new onset of this condition (Cagnin et al., 2020). In this regard, we observed that also to do a simple nasopharyngeal swab often require some extra-resources in terms of health personnel. This test, in fact, is not invasive (Marty et al., 2020), but it can be fastidious in this kind of people for this it is not always possible to explain why the test is important and so to get an agreement for that. Moreover, a written permission to COVID-19 is not routinely requested in our structures. A practical solution of this problem is not easy. Based on our experience,

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**Table 1**  
Specific approach to demented patients infected with COVID-19 in nursing homes.

Specific approach	Pro	Cons
<b>Psychological approach</b>	Important for patients with dementia and Behavioral and Psychological Symptoms of Dementia	Not available in all nursing homes
<b>Dedicated walking space for wandering patients</b>	Best non-pharmacological solution	Difficult to realize during the COVID-19 outbreak in terms of personnel
<b>Video calls</b>	Appreciated by relatives and patients	Not applicable for patients with COVID-19
<b>Intensive care approach</b>	Best solution in severe COVID-19 cases	Ethical problems for older patients with severe dementia; poor prognosis

since this test requires than five minutes, we suggest talking a long with the patients, better if supported by a psychologist expert of dementia to describe this procedure and to reassure the patient.

Another problem that we had in our experience with the COVID-19 outbreak is the management of residents with wandering. Wandering affects more than 20 % of older people affected by dementia, being particularly higher in the early phases of Alzheimer’s disease (Cipriani et al., 2014). At the same time, one of the most important principle in the management of COVID-19 is the isolation of infected people (Tang et al., 2020). If one person affected by wandering is also affected by COVID-19, we can suggest to keep this person in the largest space possible and, if possible, to walk with a healthcare person dedicated. Of course, we must admit that this strategy use extra-resources in a period in which not only residents in nursing home, but also personnel, can be infected having therefore less persons working in nursing home (McMichael et al., 2020). In our experience, Italian nursing homes can confine several, even if not all, COVID-positive residents in their rooms, sometimes against their will for isolation purposes. This choice may raise not only important ethical, but also regulatory issues, since univocal indications are not present and the management of these problematic patients are more based on clinical experience than the law.

Another issue is the relationship with families and caregivers. In Italy, from several months, the visits from relatives are not permitted. In our experience the families are particularly worried by not knowing the health status of their relatives and this often is the preamble of medico-legal contentious. A simple solution to this problem is to use video calls that not only offer the possibility to hear the voice of older persons, but also see their faces. Whilst this is easily due in non-infected residents, an important problem is present in infected residents, particularly if they are disabled and not able to use these technological tools. This is mainly because personnel taking care of video calls are not health personnel: therefore, the managers of the nursing homes often chose to limit their presence, particularly in wards dedicated to COVID-19 patients. The geriatricians encourage the use of video calls in COVID-19 wards, even if non-health personnel should be carefully educated regarding the use of personal protective equipments (PPEs).

A third problem that we would like to discuss in this work is the prognosis of older residents in nursing home that is closely related to the best therapy that we can offer to our patients. The prognosis of older nursing home residents is a topic of great interest in geriatric medicine (Mitchell et al., 2004), despite a not univocal approach to the best tool is still available. During this epidemic, we have learnt that we must better consider the prognosis of these frail patients in our daily clinical practice. Nursing home residents experience frequent hospitalizations, also at the end of the life (Hoffmann et al., 2019). Whilst this is usually tolerated, the COVID-19 outbreak has required an important effort from our hospitals in terms of hospital beds, including those of intensive care

units, ICUs (Du et al., 2020). Therefore, to admit patients from nursing homes with a poor prognosis to the hospitals remarks again the importance of a multidimensional approach to the patients and the fact that age does not explain everything in terms of prognosis (Tosato et al., 2021). For example, it was reported that some centenarians survive to COVID-19 (Applegate and Ouslander, 2020), again indicating the importance of better stratifying older people resident in nursing home in terms of prognosis. An accurate evaluation of the prognosis can better identify nursing home residents that can have some advantages from the hospitalization. In our experience this has introduced in some periods of the 2020 relevant ethical dilemmas, in both senses: from one side when we would like to recover one person that can have advantages from hospitalization, but he/she refused this solution for fear, or, on the contrary, when the resident asked for a hospitalization but only admission to the ICU could resolve his/her situation. In these cases, no easy solution is available and only a sharing of the different aspects can solve this situation. On the contrary, the other solution that we can actually propose in nursing home is palliative care therapy (Lancet, 2020). In our experience, relatives and health personnel working in nursing home better accept this solution in long-term medical conditions (such as cancer or terminal stages of dementia) than an acute disease, such as COVID-19. Of recent interest, it is the experience of one on-site medicalization program during COVID-19 outbreak in which this approach was able to reduce unnecessary hospitalizations and promote palliative care in nursing home (Bernabeu-Wittel et al., 2021).

A final problem that we would like to mention is the therapeutically approach to the COVID-19 older nursing home residents. Several medications that we are using for this condition are given orally (Sanders et al., 2020), whilst dysphagia is a common condition in nursing home (Streicher et al., 2018). Since now, we don’t know any reliable alternative to these medications and, practically, dysphagic patients are treated only conservatively, i.e. with intravenous hydration or corticosteroids, of which efficacy is still debated (Veronese et al., 2020). Moreover, nursing home residents are often frail, whilst the treatment of COVID-19, also in the early stages, seem to require high dosages of medications, a principle that is far to geriatric medicine itself (Bressler and Bahl, 2003).

### 3. Future research directions

Table 2 summarizes the future research directions, in the light of the clinical issues discussed until now. The first one regards the difficulty in testing patients affected by dementia that difficulty understand the reason of these tests: in this sense, a possible solution could be to find newer less invasive tests for COVID-19 identification (Touma, 2020). Unfortunately, the research so far has mainly reflected on the velocity of the answer than the invasiveness of the test that is, on the contrary, an important aspect in our structures (Touma, 2020).

Another clinical problem that we face every day is the difficult to manage patients with wandering, being COVID-19 positive. In this sense, two research directions are possible. The first one will be the COVID-19 vaccination in nursing homes than is worldwide increasing.

**Table 2**  
Clinical problems and future research directions proposed.

Clinical problems	Future research directions
COVID-19 testing difficulty in patients with dementia	New possible tests for COVID-19 identification
Difficult to manage COVID-19 positive patients with dementia with wandering	COVID-19 vaccinations; re-organizing the structure of the nursing homes
Issues with connecting with families and using video conferencing	More diffusion in general population of video conferencing
Prognosis and appropriateness of intensive treatment	Increase the use of prognostic tools in nursing home setting; use of telemedicine
Issues related to dysphagia	Medications older-friendly

Unfortunately, the studies leading to the approval of the vaccines did not include this kind of patients (Jackson et al., 2020; Walsh et al., 2020) and only a marginal part of frail individuals. However, recent studies have suggested that COVID-19 vaccination could be efficacious in nursing home setting (Mor et al., 2021), but future confirmatory studies are needed. Frail individuals, in fact, might have a minor response to the vaccination, a phenomenon usually called immunosenescence associated with a high failure of vaccination in older people (Demurtas et al., 2020; Grubeck-Loebenstein et al., 2009). A second future research direction for managing patients with wandering is causally related to the purposes of several researchers in re-organizing the structures of the nursing homes (Inzitari and Marco, 2020; Werner et al., 2020). During this epidemic, these structures were reported as not satisfying in terms of hygienic interventions, making often difficult the isolation of the residents (Laxton et al., 2020). At the same time, before this crisis, other researchers proposed that actual nursing homes are not adapt for older people being, for example, too large, with poor privacy and not encouraging social interactions among residents (Kane, 1998). We therefore encourage that eventual changes in nursing home organization will lead to a concomitant increase in research in this specific setting.

Another clinical problem, as discussed is the issue to connect with families, using video conferencing tools. In this regard, future research should find how to diffuse this kind of tools in general population and, particularly, among older caregivers (Newbould et al., 2017). Of course, this needs public health solutions that only States can support, also in terms of research.

Furthermore, the topic of prognosis and appropriateness of intensive treatment could be faced through, at least, two approaches. The first one, as already discussed is to increase the use of prognostic tools in nursing home: in this sense, the role of comprehensive geriatric assessment is essential. A recent paper made among Italian nursing home residents indicated that COVID-19 increased the risk of mortality, particularly in frailer people (Veronese et al., 2021), further highlighting the importance of comprehensive geriatric assessment in nursing home setting. A second important future research direction could be the use of telemedicine. The efficacy of telemedicine in reducing unnecessary hospitalizations and improving medical care is widely reported (Eze et al., 2020). However, the research in nursing home is really limited to some small studies (Grabowski and O'Malley, 2014). During the COVID-19 outbreak, we feel that this tool could be extremely useful, e. g., for involving specialists in infectious diseases, geriatric medicine or pneumology for better stratifying the prognosis and appropriateness of treatments in nursing home residents.

Finally, we have discussed the therapeutical approaches in residents in nursing home in which, unfortunately, dysphagia is highly present. An interesting position paper has indicated the necessity of improving the quality of medicines for older people, also when they are affected by dementia and other related conditions (Wahlich et al., 2013). In this sense, the research should grow to include studies with a specific focus on developing appropriate formulations with senior friendly packaging and adherence systems for older people (Wahlich et al., 2013).

#### 4. Conclusion

With this work, we have reported the most common problems that we are facing in our clinical practice as geriatricians every day. We believe that geriatricians have a pivotal role in COVID-19 management in nursing home, from diagnosis to prognosis and finally for the best therapeutically approach to nursing home residents. Despite it is a dramatic situation, future research is urgently needed particularly for verifying the effect and safety of COVID-19 vaccinations, the use of telemedicine and the re-organization of these structures.

#### Declaration of Competing Interest

The authors report no declarations of interest.

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