

# Covid 19 Disease in Elderly Patients Niger's Experience



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## Abstract

**Background:** The Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) -2, is a new type of beta coronavirus with high pathogenicity in humans specially in elderly or people with multiple morbidities, the virus is more likely to cause severe interstitial pneumonia. Our aim was to determine the epidemiologic, clinical and therapeutic aspects of COVID-19 in Niger elderly's patients.

**Method:** It was a prospective study from March 23, 2020 to June 23, 2020 on COVID-19 positive patients.

**Results:** 1076 tests realized in which 141 patients were positive for COVID-19 infection laboratory test; the mean age was 68.8 years old [60-92 years] with men predominance (70%); retired (42%); marrieds (65%) and 100% live with their family. 70% of patients had at least one (1) comorbidity. There was most hospitalized elderly (58%) in the screening and their characteristics were: oldest patient (71%), severe form of COVID-19 (92%), comorbidity (77%), lethality (80%) and 99% treated by hydroxychloroquin and Azithromycin. About geriatric syndrome, 69% of patients had normal nutritional status; 90% had normal cognitive status and 90% were nondependent.

**Conclusion:** Hospitalization was frequent with increasing age, comorbidity, gravity of COVID-19 infection treated by hydroxychloroquin and azithromycin; some elderly patients were followed at home by mobile team.

**Keywords:** COVID-19; Elderly; Clinic; Treatment; Niger

## Introduction

The Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) -2, is a new type of beta coronavirus with high pathogenicity in humans, it is the same family as the SARS-CoV of acute respiratory syndrome from the Middle East. The elderly are highly exposed according to the frequency of comorbidities. The virus is potentially cause a worst interstitial pneumonia. The first case was detected in January 2020 and caused pneumonia epidemic in Wuhan state, capital of Hubei province; Then the propagation of virus in China [1]. The first case of COVID-19 in Niger was reported on 19 March 2020 and increasing cases until March 2021 with a total of 4807 confirmed COVID-19; 176 deaths according to the general secretariat of government of Niger published on 05 March 2021 after ministerial council. The virus extended in the world especially in countries like Italy, France and the United States of America with an increasing of COVID-19 confirmed cases every day [2]. The WHO named the coronavirus disease 2019 (COVID-19), then declared it a pandemic on 12 March 2020 [3]. The coronavirus infection gives respiratory and digestive symptoms, it became a real health attack in the world. At 20-2021 February, the COVID-19 caused 2,456,069 deaths in the world and

infected more than 110,903,169,820 persons. One of the major pitfalls of the current healthcare system that has been revealed by the pandemic is the risk of ageism. In the current COVID-19 tragedy, ageism can be summarized as the exclusion of persons from interventions just because they were "old". Geriatric medicine has produced substantial evidence showing that chronological age needs to be placed side by side by concepts like frailty and disability which better health status and future prognosis of older persons [4]. In a context of global ageing, it is important to pay attention about prevention and managing COVID-19 in context of African elderly's people even if the burden predicted is theoretically underestimated until now. However, there is no data about elderly COVID-19 in sub-Saharan Africa country.

## Methods

It was a descriptive prospective and retrospective study from March 23 to June 23, 2020 about patients diagnosed positive for COVID-19, who are at least 60 years old consent for the study. They were hospitalized or followed by the mobile team of community in charge of COVID-19 to country capital.

Data collection was carried out on pre-established individual investigation sheets from the interview, physical examination and the database of COVID-19 positive patients. We used the database and follow-up sheets established by the mobile covid-19 management teams to contact the patients selected for our study, make appointments at their homes and carry out our data collection. Variable study were epidemiology, clinical and

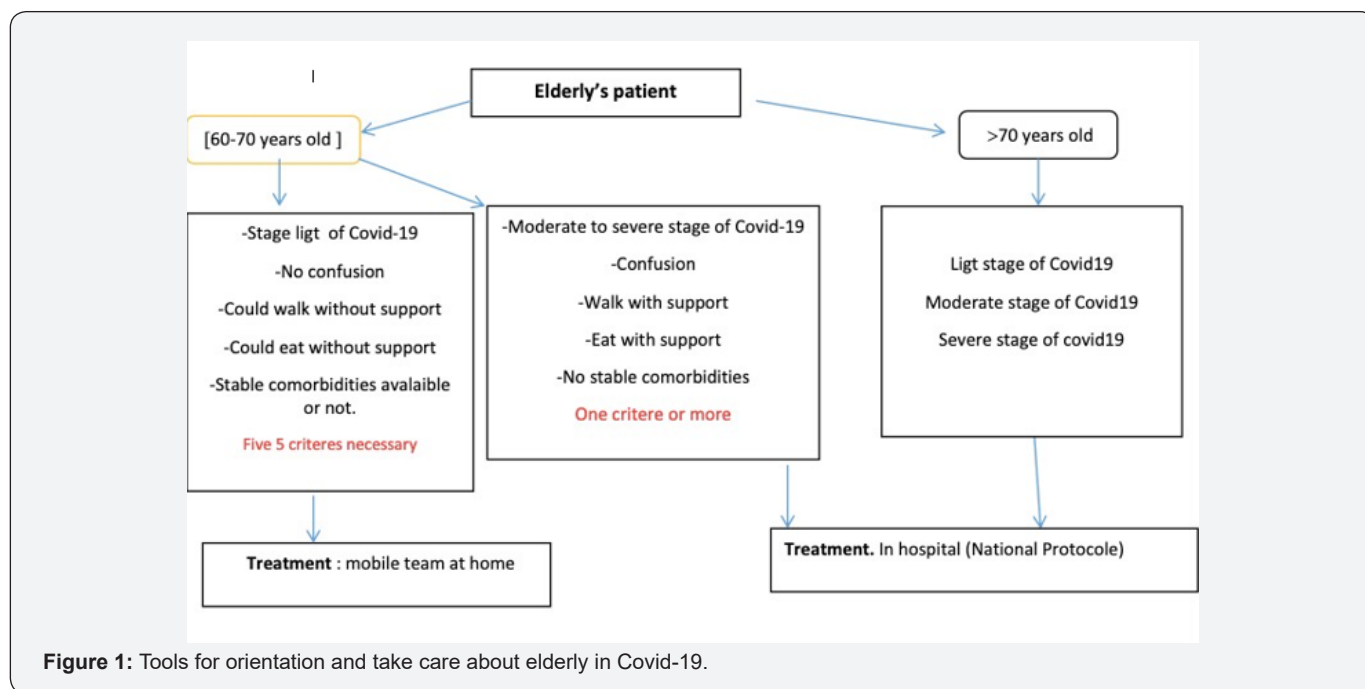
treatment. The length of the evaluation assessment questionnaires criticized by some patients and also the nature of some questions not conform of local sociocultural context.

We had authorization of the direction of Hospital and the consentement of the patients for participate to the study in the respect of ethics and deontology rules (Table 1).

**Table 1:** Summary of socio-demographics, geriatrics syndroms of elderly patients with Covid19.

Socio-demographics and clinics aspects	Number (n)	Percentage (%)
Frequence	292/1076	27%
Sex ratio: Man/Women	99/ 42 (Sex ratio=2,3)	70,02%/29,8%
Group of age (years): 60-74/ 75-85 / >80 years	107/ 32/ 15	76%/ 22,6%/ 1,4%
Nationality: Niger/ France/ Tchad/ Brasil	137/ 2/1/1	97,1%/1,44%/0,7/0,7%
Activities: Retires	60	42,5%
Official	39	27%
Household	20	14,2%
Traders	18	12,1%
Workers/marabout	4/2	2,8%/1,4%
Marital Status: Married/Widows/Single	91/8/42	65%/6%/29%
residence: familyly	141	100%
Letality	42	29%
Comorbidty: Yes / no	99/42	70%/30%
Gravity of infection: light/moderate/severe	33/53/60	18,4%/38,3%/43,2%
MNA : Normal/risk of denutrition/ denutrition	98/40/4	69%/ 28%/3%
MMSE : Normal/ neurocognitifs disorders	127/12/2	90%/8%/2%
ADL : autonom/partiel/non autonom	127/14/0	90%/10%/0%
Treatment : hydroxychloroquin/Aithromycin	140/87	99,2%/61,7%

MNA = mini nutritional assessment, MMS = mini mental status, ADL= activity of daily living.

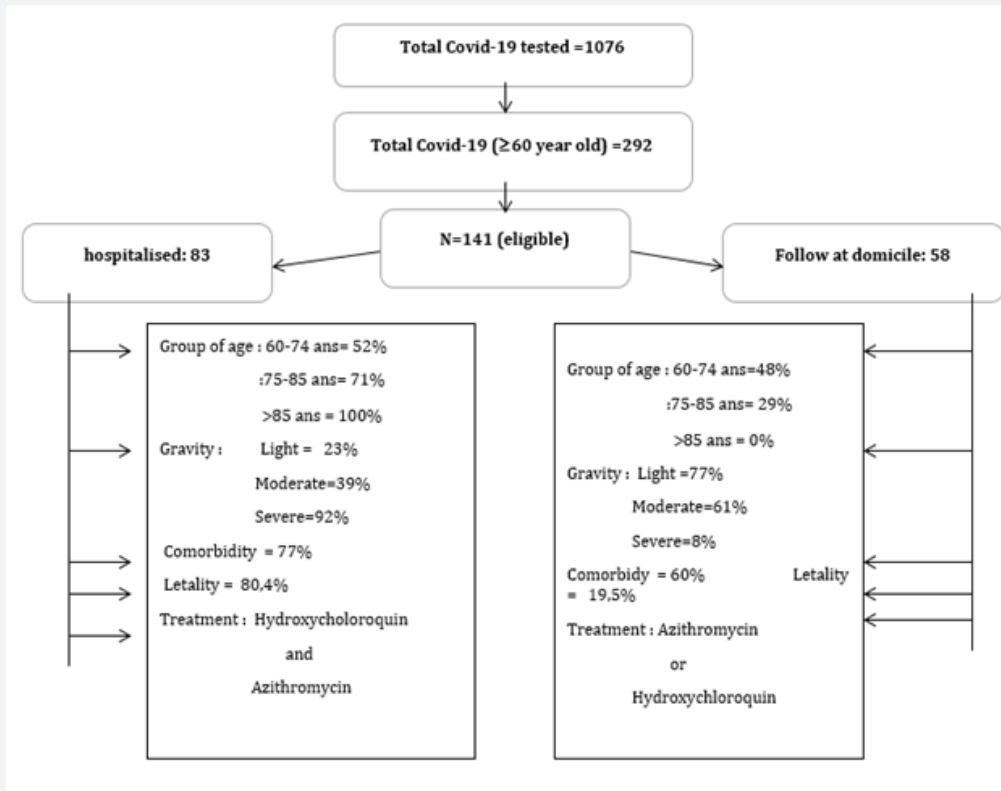


**Figure 1:** Tools for orientation and take care about elderly in Covid-19.

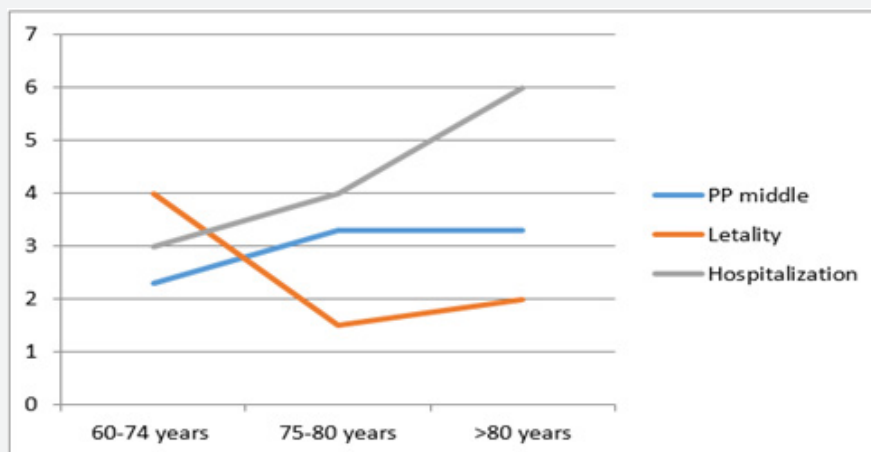
**Results**

The rate of hospitalisation and letality of Covid19 increased with ageing while the physical performans (PP) did not really change in those covid19 elderly patients.

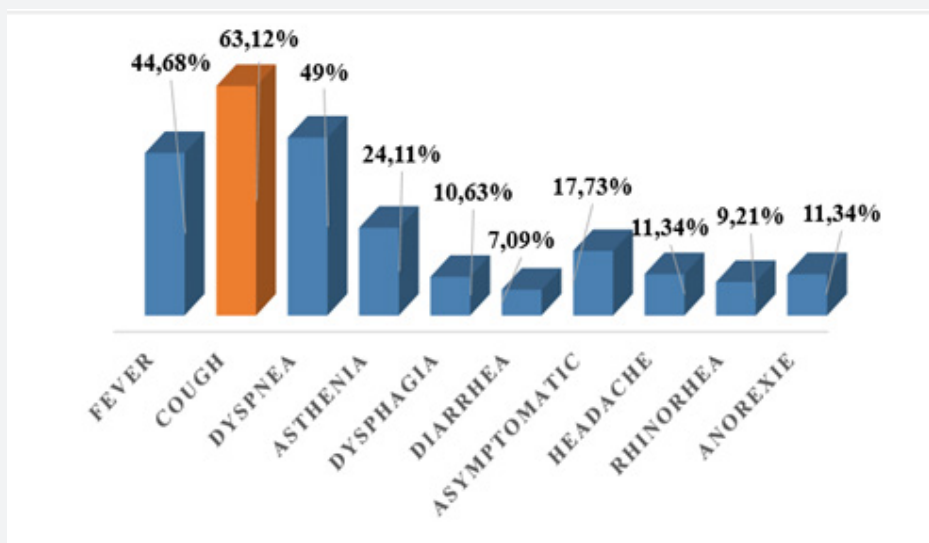
The pseudo grippal signs (cough, dyspena, fever) were more frequent, the were also asthenia, anorexie and non symptom in the elderly patients with covid19 postive.



**Graphic 1:** Global flow of elderly patients associated of epidemiologic, severity and treatment in intra and extra hospital about the first waves of covid19 in Niger. The burden about gravity, letality of Covid19 in elderly was frequent in hospital specially while the age increased. Eldery patients with covid19 were treated and followed succfully at home by medical mobile team.



**Graphic 2:** Distribution of elderly's group age by letality, hospitalised and physical performans.



Graphic 3: Covid-19 elderly patient's symptoms.

## Discussion

The mean age was 68,8 years old [60-92] with 60-74 years old group age most frequent (76%) and men sex predominant (sex ratio =2,3). Our results are similar to Jiangshan and Chen N study in China for respectively mean age (68 years old) and the sex ratio [5,6]. The major patients of our study were retirees, married and living at home. It was the global tendency of sub-Saharan African country life style for those group of age. Comorbidities were at least one (1) found in 70% cases, the same result was found in Guo T (69,5%) study in Hunan but in Chen N study in Wuhan the result for comorbidities was inferior (51%) than our result. The difference could be explained by the age of patient inclusion who was at 55,5 years old in Wuhan study [7]. We did not find data about those age groups in Sub-Saharan countries. High blood pressure was found in 50% in our study, superior than in Guo T (43,3%) study but inferior than in Leung C study who found 53% of HTA [7]. The diabetes was found in 24,1% in our study as like in Guo T one in Hunan province [7]. In Europe, a large number of patients affected by COVID-19 had highlighted cardiovascular and metabolic comorbidities in explaining the excess of mortality among older people. However, to our knowledge, there are no studies assessing the impact of geriatric syndromes on patient's outcomes [8]. The most frequent signs found in our study were cough (63,1%), dyspnea (49%) and fever (44,6%). Annweiler C and al in French and Guo T in Hunan present the same profile of signs than in our study but in Leung C study we found the predominance of fever (67,7%), cough (51,6%) then dyspnea (40%) [7,9]. There were also signs like asthenia, anorexia and asymptomatic found in elderly patients in our study. In our context, the self-medication is frequent and could explain for example fever infrequent, no symptoms

and atypical signs. In very old people affected by COVID-19, the common symptoms is delirium which is commonly hypoactive or mixed [10,11]. Delirium is a strong predictor of mortality and its incidence in elderly patients hospitalized. There are no guidelines available in our knowledge to improve the clinical approach to elderly affected by COVID-19 along geriatric syndromes. The suggestion is to adopt screening protocols, such as 4AT, for the early diagnosis of delirium and to monitor psychological, behavioural, and physical functions and to implement non-pharmacological and pharmacological treatments for delirium patients [12]. In our context, according to the consideration of geriatric physicians in COVID-19 management, practice tools (Figure 1) & (Graphics 2 & 3) to screen rapidly elderly patients for hospital treatment or home care by mobile team were proposed. The lethality in our study was higher in hospitalized patients (80%) and the severity of infection COVID-19. The hospitalized patient increase with aged patient. The global lethality was 29% and important in young old patient than oldest one probably due to the high number of young old in Niger and sub-Saharan country. The demographic transition is not effective in Africa, the major class of population is young. The context is different in Europe who had a demographic and epidemiological transition. The median age of patients dying of COVID-19 is 80 [IQR 73-85], which is more than 15 years higher than the median age of patients diagnosed with COVID-19 in Italy [13]. Current data suggest that elderly patients with 70 years old constituted 85% of deaths in Italy [14]. In hospitals there is a clear correlation between age and mortality rates, who reaches 55% among very old patients (> 85 years). Moreover, 92% of hospital deaths occur among people aged 65 and over. There is no data about geriatric syndromes and COVID-19 outcomes. However, the mortality rate in hospitalized subjects with severe dementia reached 65% in patients with an average age of 80 years old [15].

The management of old patient with Covid-19 at home was focus on regulary evaluated and surveillance physically or by cell phone with physicians' team. The social distancing rules, adherence of pharmacological treatment, were explained by patient or their relatives. Complete isolation could not be possible in our context. However Older people living at home in self-isolation, in particular those affected by chronic conditions, need surveillance to ensure adherence to pharmacological treatments, and access to nutritious food, social and mental health support and information to maintain their emotional well-being [16].

The impact of COVID-19 has been devastating on long term care (LTC) facilities, with both high prevalence and mortality among residents with a rate fourfold higher than expected in LTC [17,18]. The isolation from their relatives may have had consequences on the psychological, cognitive, behavioral and physical status of older and frail people in Europe. The management of older patient who need hospitalization is doing like general adult population in our country and sub-Sahara areas. So, we should adapt specifics areas for elderly patient management. The clinical course of the disease and eventual side effects of medications should be regularly evaluated. Family members should be instructed to protect themselves from the risk of infection. GPs should consider hospitalization in case of worsening symptoms (i.e., fever, asthenia, dyspnea, confusion) or whenever the family is unable to provide adequate support.

All our patients hospitalized were treated with hydroxychloroquin associated Azithromycin) after realized electrocardiogram systematically. The older patients followed at home took Azithromycin only. The global sides effects non tolerable were 11%. In Europe, for older patients who need hospitalization, the suggest the creation of specific areas within the hospitals, to guarantee treatments tailored for frail patients. For instance, it is well known that non-pharmacological approaches are more effective than pharmacological ones in the prevention and treatment of hyperactive delirium [19]. Low-intensity hospital wards, with high capacity for supportive and palliative care should also be arranged, with attention to comfort and end-of-life issues [20].

Hospitalization should be limited to cases that cannot be managed in LTC facilities, and should be considered only after an assessment of the patient's general health, cognitive, functional status and after an evaluation of patient's priorities. Monitoring of possible contagion among health care professionals should be systematically carried out, and the availability and correct use of PPE should be periodically assessed [21].

### Conclusion

The most severe consequences of the COVID-19 pandemic impact the elderly, so geriatricians should be implicated in health-policy decision-making, in the drafting of guidelines and

in deciding the allocation of resources. However, we should be able to repertoring and tracing all frail elderly in order to making early efficient strategy to fight against epidemic for elderly. It's should be easy and possible because in sub saharian areas, the major rate of population is young.

In 60-70 years old , elderly patients who had not covid19 clinical suspect criteria specially mental statut and or activities daily living/ instrumentals dysfunctions, stable cormorbidities available or not; the availability of thoses criteria are necessary to contact mobile team for treatment at home to elderly patient with covid19. But the presence of one or more criteria in the same group age (70-70 ans) and an elderly patient who had over than 70 years old should be hospitalised for treatment.

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