

PALLIATIVE CARE DURING COVID-19 PANDEMIC: PRACTICAL RECOMMENDATIONS FROM LITERATURE EVIDENCE

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Received: 12.02.2022.

Accepted: 22.02.2022.

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ABSTRACT

COVID-19 patients incidence rate is constantly expanding world-wide and the risk of mortality is extremely high among elderly population and those with acute or chronic disease and comorbidities. The pandemic caused by the SARS-CoV-2 virus has strongly affected the functioning of healthcare networks around the world and changed many palliative care units in healthcare institutions into COVID patients treatment units. Palliative care in many countries has insufficient number of resources and suitable legal and regulatory frameworks in order to guarantee the integration in the system in pandemic. Palliative care deals with the ways to prevent diseases and how to treat some serious medical sequelae resulting from any kind of disease that in a serious way affects the quality of life. The basic postulate of palliative treatment include providing immediate decrease or complete elimination of somatic symptoms, providing support psychological, spiritual and ensuring empathic care for both the patient and the family. They all have come into focus during a pandemic. Grown-ups and children requiring palliative care, especially in low and countries with lower-middle income, oftentimes have to face with difficulties and problems in approaching necessary services. Society has recognized their vulnerability during COVID-19 pandemic. The situation has been aggravated by their incompetence to have an approach to all necessary health accommodation, treatments, drugs and backing to manage hazardous diseases and medical agony. For all the above, palliative care is to be consolidated into national and international plans in response to COVID-19. It is expected that pandemic due to COVID-19 will be a longlasting health problem, which emphasises the necessity to simultaneously health care for patients sensitive to COVID-19 and other patients. This obliges the medical professionals to constantly increase their knowledge by searching, relevant literature and applying practical recommendations and guidelines.

Keywords: COVID-19, coronavirus, pandemic, palliative care, telemedicine, lethal outcome.

DOI: 10.2478/sjocr-2022-0012



INTRODUCTION

The unprecedented scale of COVID-19 outbreak required an urgent response all over the globe, testing the resilience of all healthcare systems. Most responses to COVID-19, including countries with good resources have neglected palliative care because they have been in a hurry to develop new strategies to mitigate, combat and manage COVID-19 (1). To ease the pain and to support the complex decision on how to manage health incertitude are leading roles of palliative care. They are crucial items of the reaction to epidemics conditions (2). However, World Health Organization (WHO) guidelines for operational planning that support countries' readiness and response have not included palliative care in strategies to maintain basic health services (3).

The pandemic has the greatest influence on the countries with low and middle-low income, many with the weak healthcare system with limited resources. They have proven to be more vulnerable because they have plan, organize and use all resources in order to minimize serious medical issues. The pandemic has exacerbated different sufferings at human body (physical and spiritual) provoked by the imminent consequences of the illness. All this have devastated communities and countries. It has dramatically modified the priorities of the health system by redefining certain resources, services, regulations and health security measures (4).

When curative medicine exhausts all possibilities in the treatment of a patient with active, progressive and advanced disease, palliative medicine continues with an appropriate medical care. Thanks to the procedures and attitudes of modern palliative medicine, every person has the right to face advanced or terminal illness without pain and with as little spiritual suffering as possible. However, palliative care is the key to alleviate serious health suffering associated with both COVID-19 and other health conditions. In many countries with low- and middle-low income, palliative health care services are being developing. Although some societies created national strategies it should be emphasized that additional revisions are necessary to ensure that they are in line with the purpose of the pandemic. Palliative care does not have sufficient resources and there are no appropriate legal and regulatory frameworks to guarantee the integration in the system during pandemic. Palliative care services based on community that can provide effective home care are in their infancy in these countries (5). Health policy makers and leaders in these countries cannot clearly see the value and the importance of incorporating palliative care components in responses to COVID-19 without the human and financial resources to integrate it. Health services in low- and middle-low income countries do not have enough basic resources like personal protective equipment, intensive care units, respiratory support equipment including respirators. We can see that some health services that provide palliative care are moving to other areas of the health care system, leaving patients without palliative care. These vulnerable patients during the COVID-19 pandemic aggravated their position because they have not been able to entry all necessary health organisation,

treatments line, medications and support to manage life-threatening diseases and grave health sufferings.

Pandemics like this one, triggered by COVID-19, could increase health care services utilizations, as well as palliative care and care for a person nearing the end of their life. According to present data it is clear that palliative care is regarded as a necessary segment of the general health insurance (2). The contribution of primary care and specialist palliative care is required now more than ever. To recommend institutional and national policies that provide access to essential medicines to treat symptoms, promote the integration of palliative care in clinical and educational settings, support person-centered care during serious illness and times of death, death and grief, and encourage the delivery of safe, high-quality and effective palliative care medicine, should be crucial.

The COVID-19 pandemic virus has changed the society at all levels. It has a negative impact on the treatment of many chronic conditions, the health of the mother and child, and increases the risk of co-infections, such as HIV and tuberculosis. The concerning question is the deterioration of mental health, gender-related violence and disruption of social cohesion because of the economic upheavals and scarce resources. It is obvious that the COVID-19 pandemic is to be one of the greatest challenges that we have to face with in contemporary times.

Although it can be said that distancing, such as physical and also social, are basically the most helpful way to prevent the spreading of any infection, the isolation as an outcome undermines the basic need that people want to spend their time with friends and family. This lack of human relation is highlighted in patients who are critically ill, admitted to hospital, or at the end of their lives at home. That is why palliative care with its holistic approach is the key element in this era of COVID.

Palliative care definition

The definition of palliative care has been developed over the years as this part of medicine has evolved. The World Health Organization has changed the definition several times, presenting palliative care as a holistic and active approach of the seriously ill patients, as well as providing psychosocial support to families (6) with the eternal goal of obtaining the highest possible quality of patient life for terminally ill and for people in their environment, by controlling pain and controlling other symptoms of patients. The newer definition highlights the way we can prevent sufferings: "Palliative care is an approach that improves the quality of life of patients and their families, facing the problems that accompany life-threatening diseases, through prevention and alleviation of suffering through early detection and accurate assessment and treatment of pain and treatment of other symptoms of the disease: physical, psychosocial and spiritual" (7).

A recent definition based on consensus describes palliative care as "active holistic care for individuals of all ages



with serious health suffering caused by serious illness and especially those near the end of life." This attitude and access to palliative care wants to make some improvements in the way patients live their lives, how it affects their families and their carers (8). If we focus on this definition, we can see that the world starts to change its view on palliative care. Society feels that palliative care does not focus on only individual patients with a poor prognosis or on patients nearing the end of life. They feel it is a holistic approach that can help to ease health sufferings and as such should be implemented early into development of disease.

According to all state members of WHO:

„... palliative care is the ethical responsibility of healthcare systems, and [...] it is the ethical duty of healthcare workers to alleviate pain and suffering, whether physical, psychosocial or spiritual, regardless of whether the disease or condition can be cured [...] care for individuals at the end of their life is among the critical components of palliative care” (9).

Palliative care is capable to (10):

- relieve pain and other symptoms of the disease
- affirm life and all its values, but sees death as a normal process of life
- it does not hasten or delay death,
- incorporate psychological and spiritual aspects of patient care,
- offer support to patients so that they can live as actively as possible until the moment of death,
- offer a system of support and assistance to the family in dealing with the situation during the patient's illness and later in the period of grief over the loss of a loved one
- use a team approach in identifying the needs of patients and their families, including counseling during periods of mourning, if necessary,
- it can be used at an early stage of the disease, along with a number of other therapies in order to prolong life

Patients requiring palliative care encompass those with life-limiting, life-threatening, infectious with acute or chronic course, which may include conditions such as malignancy, HIV / AIDS, cardiac or respiratory conditions, metabolic disorders, disorders of a neurodegenerative nature (including dementia); advanced neuromuscular diseases, insufficiency of terminal organs, liver, COVID-19 and others (11). Patients requiring palliative care are often not recognized by community and "abandoned" by health care advocates and policy makers. Such patients have a fear that society considers that their lives are not worth saving. Limited resources impose difficult clinical decisions at the forefront, which can mean that many patients with preceding palliative care requirement are going to be deprived of intensive or medical procedure that can have life-prolonging effects if they get COVID-19 infection or they develop another life-threatening disease throughout a pandemic. We can see that some health care systems apply commands named DNACPR (Do not

attempt cardiopulmonary resuscitation) as a recommended protocol with no even taking into account individual cases (11). Solving dilemmas and making the right medical and ethical decisions requires medical knowledge and skills, as well as understanding and accepting basic moral values and ethical principles. As professionals, we have a duty to ask ourselves whether our decisions are in accordance with the patient's will (autonomy) and in his best interest (well-being) and whether we will in any way harm the patient (*primum non nocere*) or society (justice) (7). The issue of enormous clinical interest is the difficult ethical issue of health care rationalization if we take into account the unprecedented pressure on the whole healthcare system by increasingly diffuse infection with increased strain on intensive care units at the height of the SARS-CoV-2 pandemic (12).

Precisely the primary goal of planning the advanced care in the context of COVID-19 is to avoid unwanted hospitalizations in intensive care units, which would unnecessarily burden this healthcare service and make the need for rationalization more difficult. Based on newly published triage criteria of SAMS (Swiss Academy of Medical Sciences) (13), patients currently monitored by palliative care teams, as well as most patients in nursing homes, will not be in a position to be treated in intensive care organisations if they have approved infection of COVID-19 virus. It is important that residents / patients and families are informed that although if they are in the mood for hospitality and intensive treatment unit in case of disease caused by COVID-19, this does not be the case if there is not real medical indication for it, especially in a case of resource scarcity. Challenging decision should not be made according to one person thinking, but should be based on decision from interdisciplinary medical team including, for example, an physician from intensive treatment unit, an cardiologist and specialist of palliative care. Especially in the COVID-19 era, the elderly and vulnerable population that have cognitive disorder may not be suitable subject for mechanical ventilation due to clinical evaluation, even if that is their wish (14). Sometimes it is not easy to assess whether a procedure is futile or just ineffective (low-yield). Situations in which the question of the futility of treatment arises include: interventions aimed at maintaining the life of patients in a permanent vegetative state (artificial ventilation); resuscitation of patients with advanced, incurable diseases; chemotherapy in advanced cancer or the use of antibiotics or parenteral rehydration in a patient in the later stages of the disease (7). Considering that neither successful cure nor recovery is expected in the seriously ill, the question arises, what can palliative care offer? Control of pain and other physical symptoms are basic interventions, because it is important that the patient feels as comfortable as possible, which means that the sensation of pain is stopped and reduced, that there are no unpleasant symptoms, that he can sleep, drink and eat (depending on the stage of the disease) and maintain hygiene. Knowing and understanding ethical principles and acting in accordance with them not only contributes to improving the quality of life of patients and their families, but also contributes to the satisfaction of professionals during their hard work, stress prevention and prevention



of burn out syndrome (7). Clinicians do not pay enough attention to the fact that a large part of what clinicians offer does not cure the disease - but manages it. This is especially true when it comes to elderly patients and those with a number of severe chronic diseases, to which some of the medical interventions bring much more harm than good. Generally speaking, palliative care offers specialized medical care for anyone living with a serious illness, with a focus on professional symptom management, skillful communication and support for patients and their families. Palliative care is provided together with other medical services and aims to alleviate the symptoms and stresses of the disease, improving the quality of life of both patients and families (15). It is proven that during a pandemic, healthcare professionals have had the leading role in providing care. This has been a perfect opportunity for them to demonstrate their years of learning, educating, acquiring skills, and their commitment to work in order to provide exceptional care based on evidence. In this pandemic, the society has become aware of the challenges that medical staff have to face with. We can mention relocating to areas that require current or various working characteristics, the possibility of infection or contaminating others, overburdening and often doing job without proposed individual work accessories that can protect them. Healthcare professionals are also essential figures in the global fight to the COVID-19 pandemic. During a pandemic, they have had the opportunity to show and apply their unique and innovative skills, especially the holistic approach to care that is a backbone of palliative care. It seems that this contribution to society is insufficiently recognized or even minimized, limiting chances for development of leadership. They have used their best working characteristics in tackling with complex health requests and resolutions and were just one instrument in coordinating between the holistic needs of patients, their families and caregivers, sadness and grief.

PALLIATIVE CARE DURING PANDEMIC COVID-19

If we take a look at some similar public health crises throughout history, we can see that medical staff have been the first to respond, even in the COVID-19 situation. They have combined modern and scientific solutions and suggestions which focus on evidence with the competence of taking medical care for ill subject, their nearest and the community. They care for people all around the world. The diagnosis of COVID-19 and deaths continue to increase in number, emphasizing the significance of palliative care, especially in the light of scarce budget (16). As Dovnar described: "we need things (supplies of medicines), staff (education, expertise), space (special departments and units) and systems (triage systems, updated plans of care) to provide comprehensive palliative care during crises" (17). When we are facing some complex medical situations or there are times of great uncertainty, clinicians should consult specialized palliative care teams to provide necessary additional support. Recommendations for palliative health approach in the context of COVID-19 are given. The most important principles of palliative care were not deployed, involving recommendation

for holistic approach and therapy of existing symptoms and the end of life needs (including medicine procurement), training of health professional on palliative care (especially for assistants who provide most practical care), reference to palliative care unit or hospital, connection in pre-planned care, support to the nearest people, encompassing suffering management, and maintenance to health professional (18). The existing protocol moreover did not produce guidelines on the efficient use of health professional such as the relocation (palliative care) of health professional from acute settings to the community where necessary (16, 19).

By declaring a pandemic in 2020, we have learned the value of being prepared for unpredictable medical events and the real need for quality health care. The principles and practices of palliative care are only one example that provides many answers. Palliative care clinicians consider that we all deserve the best possible quality of life without paying attention to our social circumstances and health status. The term "palliative care" explains the role of healthcare professionals and their fundamental and universal responsibility to alleviate pain of the patients through the management of symptoms (20).

Many studies have proven that mortality from COVID-19 is higher in the elderly and patients with concomitant diseases (21, 22). Current estimates of COVID-19 mortality rates are below 0.2% for people under 60 and up to 9.3% among people over 80 (23). Severe diseases with uncertain outcome require good palliative care of patients. Despite hospitalization and intensive unit treatment, death rate is extremely high: according to the data of intensive care health professionals, extremely low percentage of patients older than 65 years on mechanical ventilation with developed acute respiratory distress syndrome (ARDS) survive. This is the reason why we should focus on the question about the entrance of elderly subject with infection of COVID-19 with multimorbidity to hospital. This is a tough question and should be addressed very seriously. It can only be suitable in case of complications of concomitant diseases. It is probable that communities that provide palliative health care can reduce the admission and hospitalization of people at terminal state due to COVID-19 infection who would choose to stay at home or under their care at home condition. Accelerated development of dyspnea in subject with infection of COVID-19 who expand acute respiratory distress syndrome can make this a challenge towards the end of life (24). Therefore, planning care in advance is crucial prior to, or no later than, when viral disease is verified. "Open, adequate communication with patience is an important aspect of palliative care and nursing. An understandable, repeated and gradual explanation enables the patient to develop realistic expectations, to express his own wishes and to make decisions" (25).

From this point of view, it is difficult to say whether palliative care in long-term care facilities is adequate or not in the context of COVID-19. Bauer describes in his study that a most of subjects at the end of their lives may haven't took palliative care treatments in the days of COVID-19,



especially the poor community living in permanent care facilities (26). As members of the vulnerable category of the population with a higher number of comorbidities, the occupant of permanent care homes accounted for a large percentage of patients and deaths related to COVID-19, (27, 28). If necessary, teams are also invited to long-term care homes to ensure optimal treatment. If patients are take medical care at home, support from nurses and from moving palliative health care professional teams is necessary. In some serious and mutiplex situations, regional palliative care health medical doctor should be contacted (29).

Most residents of long-term care homes have samo neurological disease, most often dementia, and the current medical condition create many difficulty for them (30). They are seen as a particularly vulnerable group of patients. They are highly at risk of negative health outcomes of COVID-19 (23, 31). Even if considered as an unconstrained risk factor, research conducted by Atkins and colleagues observed that pre-existing dementia has the highest influence for occurrence of serious COVID-19 symptoms in population older than 65 years who living in the community (32). It is reported that residents with dementia are in a risky situation to contract and spread COVID-19 because they have some difficulties to understand, remember and implement regulations and recommendations for infection prevention. This may imply that they hardly understand isolation measures, social distancing, and general hygiene recommendation, like hand disinfection for example (33).

As we have seen, it has been extremely complex to insure palliative health treatment during the actualy COVID-19 pandemic to palliative care users who had diagnosis of dementia (with or without COVID-19). The pandemic is particularly challenging for medical staff employed in palliative care. They are the key factors in supplying palliative treatment to patient with dementia and support to their nearest. This type of health professionals are in a position to give care to current standards, but at the same time they are expected to resume with human contact, to save the dignity of the patients and to provide adequate circumstances for patients with dementia with or without COVID-19. It has become obvious that physical contact and social connections are essential in order to improve the well-being of patients with severe form of dementia, especially if other forms of information transfer have become inapplicable (23). Adopted regulations on social measure and personal safeguard equipment make that patients with diagnosis of dementia at the end of life do not have enough intimacy and gentle touch by their family members or guardians (34). Even, personal safeguard equipment can be intimidating and mystifying for mentioned patients (34, 35). It is especially difficult to respond to some symptoms such as anxiety and depression, and to tackle with challenging behaviors, because people with dementia are likely to have difficulty understanding their current situation (35). Current literature highlights specific challenges during COVID-19 regarding advance health planning, nearest people involvement, and management of psychosocial needs that may be aggravated by exclusion.

Palliative care plays a key role in caring for the elderly affected by COVID-19 (36). It is an approach that aims to improve the human quality of life and the lives of their families, faced with the problems associated with a serious illness. This includes not only impeccable management of symptoms, including respiratory distress, but also psychological, social, and spiritual care and support in medical and ethical end-of-life decisions which are very difficult (37). It is not surprising or unexpected that we have not had guidelines due to the quick spreading of the pandemic and the lack of palliative care and end-of-life care in long-term care homes even before this pandemic (38). However, we as society need to struggle to meet the call for high-quality palliative care for patients with COVID-19. We have to focus on the high-risk population of long-term care residents (1).

In countries with developed palliative care services, specialized palliative care teams have rapidly upgraded their capacity and used all their skills and knowledge to meet the needs of the most complex patients. They set up certain in-patient units for the critically ill, organized 24/7 lines for long-distance patients and concerned family members, created "briefing sessions" for anxious colleagues working under stress from different levels of health care, participated in discussions at the system level regarding the resources of allocating and integrating palliative care teams into emergency services and intensive care teams to provide support at the right time (20, 39, 40). In the Netherlands, palliative care programs and specialist palliative care teams in hospitals during a pandemic vary depending on their level of integration and development. Appropriate staff, dedicated clinics, education, and research appear to be means to improve the penetration of their services and the referral time of patients with advanced disease (40). Palliative care, where it is available, is activated in emergencies with severe COVID-19 infections to make an assessment, to apply some measures for controlling the symptoms, to make patients and their family members more relaxed, to set up discussion on goals of nursing, to make virtual communication between patients and families easier if they want and finally to give support to the families of the bereaved, if necessary (2).

PREVENTING SCREENING OF PATIENTS WITH COVID-19 INFECTION USING CHECKLISTS FOR REFERRAL FROM INTENSIVE CARE UNIT TO PALLIATIVE CARE UNIT

It is of extreme importance that palliative care teams are active and engage their intensive care colleagues on time to identify, see and recognize patients in the COVID-19 intensive care unit who may benefit from early referral to palliative care. And that is why it is significant that palliative treatment teams are once for all, incorporated into COVID intensive care (41) (Table 1). Important criteria that may be the most relevant for patients with COVID-19 are (41, 42):



(1) condition after cardiopulmonary arrest,

(2) multiorgan dysfunction which involves ≥ 2 organs,

(3) consideration of withdrawal from a mechanical ventilation with the expected development of a fatal outcome.

Table 1. Checklist for referral from intensive care unit to palliative care unit

Indicators	CRITERIA
Weak candidate for intensive care	• Status after cardiac arrest • Active stage of malignancy IV
Continuation of intensive care will not give general benefit	• Advanced dementia (FAST scale stage 7) * • End valve heart disease / heart failure, ie. New York Heart Association (NIHA) Class III or IV, EF <20%, repeated admissions, no surgery • The final stage of kidney disease and the patient is not for a kidney replacement therapy • Assessment of clinical weakness ≥ 7
Weak response to treatment	• Multisystem organ dysfunction syndrome ≥ 2 organ systems
The basic condition is irreversible or the desired outcome cannot be achieved	• Considering withdrawal from a respirator after which death is expected
Extremely bad expected Quality of life	• Extensive intra-cerebral / subarachnoid hemorrhage with poor neurological prognosis
There is the expected poor Neurological recovery or Long-term dependence on respirators	• Massive ischemic stroke with poor neurological recovery • Hypoxic ischemic encephalopathy / anoxic encephalopathy
Conflicts of decisions / Special considerations	• Physical symptoms that are difficult to control despite common approaches to treatment • After initiation of extracorporeal membrane oxygenation (ECMO) • Complex family dynamics that influence decisions about using life support treatments • Conflicts between staff or between staff and patients / surrogates over the prognosis and / or use of livelihoods • Patients / surrogates want to explore non-intensive care support options, such as hospice services

*The FAST scale refers to the Functional Assessment Test (FAST)

The current crisis highlights two principles of palliative care that need to be integrated into overall health care, even outside active crises. First principle deals with discussing and documenting the usual preference for palliative care known as the advance care planning necessary for everyone, regardless of age or health condition. As we have seen in this global pandemic, human life is so fragile and unpredictable. We witnessed the universal need for "true care" (20). Second principle of palliative care is to understand the entire patients, individuals interwoven with their lives, their loved ones and the community. Here is also integrated the understanding of medical and non-medical sources of strength and distress, related to some factors like social, cultural, spiritual, financial, and emotional. To give palliative treatment is an ethical imperative for patients who have small chances to have positive

outcome and may have the primacy of redirecting patients who die far from overcrowded hospitals. Essential palliative care ensures that the patients get the care they want (2).

It is expected that COVID-19 is to be a long-term worldwide concern related to health which emphasizes the obligation to simultaneously give care and ensure support for patients who are sensitive to COVID-19 and care for other patients. If we want to facilitate the professional primary care and specialist provision of palliative care at this time, we should focus on forming guidelines and recommendations based on consensus under the guidance of experts in the treatment of typical COVID-19 symptoms (43, 44).



RECOMMENDATIONS FOR SYMPTOM CONTROL IN PATIENTS WITH COVID-19 INFECTION BY THE PALLIATIVE CARE TEAM

COVID-19 is treated as an acute health condition with a clinical picture of pneumonia and concomitant pulmonary failure. Some of the typical symptoms are dyspnea (difficulty breathing), coughing, exhaustion and increased body temperature. Additional symptoms such as anxiety, mental uneasiness, unrest and delirium have also been stated. Individuals with progressively worsening pulmonary problems who do not get necessary intensive care usually develop stage called acute respiratory distress syndrome (ARDS) which goes together with severe shortness of breath, anxiety and panic. They require prompt health steps in order to have symptoms under control.

Symptoms and recommendations (45):

1. Dyspnea as one of the most common symptoms that accompanies COVID infection, if maintained with optimal treatment, it should be applied non-pharmacological and pharmacological measures to control symptoms.

a. *Non-pharmacological interventions* include the following activities: *body positioning* (leaning position, pillow support); *cooling the face with a cold towel* (without hand fans to prevent spreading of aerosols); *oxygen or high-flow oxygen* (with an oxygen tank) can alleviate shortness of breath.

b. If despite medical approach of the main disease, dyspnoea persists, *pharmacological treatment* should be given by oral or parenteral opioids. In acute dyspnoea and patients with rapid exacerbation, rapid dose titration with immediate release formulations is desirable (Tables 2, 3).

Table 2. Recommended treatment for patients who have not used opioids (naïve to opioids)

Oral morphine (or alternative opioids) Morphin slow release	2,5-5 mg every 4 hours 10-0-10 mg** (8.00 - 0 - 20.00)
Lactulosa (or alternative laxatives) Antiemetic supplement if necessary: Haloperidol 0.5-1 mg at night for up to 2 hours	10-0-0 ml
Morphine solution alternatively, morphine i.v. short infusion / s.c.	2.5-5 mg** (= 2-4 drops of Morphine solution 2%) 1-3 mg**
** rapid titration according to symptom intensity	

The recommended treatment for patients already taking opioids is to increase the opioid dose by 20%.

Table 3. Recommended treatment for patients who cannot take oral medications

Patients who did not use opioids	**1 - 2 mg i.v./s.c. 4 hours or **Morphine 5-10 mg/24 h i.v./ s.c. via an infusion pump
Example: 50 mg *Morphine and 50 ml NaCl 0,9%, concentration 1 mg/ml, **Initial dose 0,4 ml/h	
Patients who are already taking opioids: Conversion of previous opioid dose to continuous parenteral administration (i.v. or s.c.)	
Example: 60-30-60 mg of Morphine per equivalent aprox. 50 mg i.v./24 h 50 mg *Morphine in 50 ml NaCl 0,9%, concentration 1 mg/ml, **initial dose 2 ml/h *or alternative opioids ** rapid titration according to symptom intensity	

2. Cough: Dry or productive cough (as a consequence of bacterial superinfection) is a frequent companion of COVID infection.

a. *Non-pharmacological treatment* includes maintaining of adequate wetness, intake of oral fluid, throat rinsing with saline or upright of the upper body during sleep, as well as the



use of some home remedies (ie ginger and honey, thyme solution for cough).

b. *Pharmacological treatment* includes the use of Morphine (3-5 mg p.o./4 h or continuous s.c./i.v. 5-10 mg / 24h) with the indication that patients with productive cough should not receive cough medicines during the day.

3. Respiratory tract secretion: The production of increased amounts of respiratory secretions may occur in the final stages of life of patients with COVID-19. Early administration of antisecretory drugs may decrease secretions in the region of hypopharynx and trachea also. But, the existing secretion will not be reduced. Healthcare professionals should take care because repeated sucking as well as parenteral fluids will escalate secretion in terminal ill patients.

Medical treatment involves continuous administration of hyoscinebutylbromide (s.c./i.v. 20 mg prn up to once per hour) or glycopyrronium (s.c./i.v. 0.2-0.4 mg 2-5o every 4 hours).

4. Restlessness and anxiety: frequent companions of dyspnea. Patients with acute COVID-19 infection, respiratory failure and the decision to limit invasive ventilation therapy require frequent assessment and prompt treatment.

Pharmacological treatment of anxiety and restlessness in patients with shortness of breath, supplementation with opioid drugs involves the administration of Lorazepam 1 mg p.o./s.l. (solution with 2 ml of water if necessary) prn, up to once in 30 min or Midazolam 2.5-5 mg i.v. short infusion / s.c. prn, up to once in 30 min. *Pharmacological treatment* of anxiety that show a refractory character and restlessness in patients with shortness of breath involves the use of Midazolam through infusion pumps (in combination with morphine) (e.g. 10 mg Midazolam ad 50 ml NaCl 0.9%, rate 2 ml / h or Midazolam 2.5-5 mg short infusion / sc 4 hours).

5. Acute agitation and delirium: Health sign such as agitation feelings or symptoms of delirium caused by infection, hypoxemia or isolation requires timely intervention. Potential causative factors, including pain, constipation or a full bladder, must be assessed and treated.

a. *Non-pharmacological treatment* include approach and therapy of potential causal constituents, verbal exchange, providing of adequate surrounding (bright and peacefully room) and patient orientation towards himself and others (also and orientation according to the actual situation).

b. *Pharmacological treatment* of anxiety involves the administration of Midazolam (2.5-5 mg iv short infusion / s.c. prn, up to once every 30 min or continuous iv or sc 10 mg / 24 h) or Lorazepam (0.5-1 mg sl / per prn, up to once in 30 min). While in this type of approach of hallucinations and confusions, the administration of Haloperidol (1-2 mg s.c. prn, up to once in 30 min or s.c. continuously 2-5 mg / 24 h) is recommended.

6. Delivery type:

- All handlings in the area of nasopharyngeal cavity is not recommended, due to the high concentration of virus in this region.
- Individuals with cough that is uncontrolled or secretion is not candidate for oral drugs, transmucosally or intranasally (45).

APPROACH TO PALLIATIVE CARE CONCEPT- THE ROLE OF TELEMEDICINE

The COVID-19 pandemic has created some new models (forms) of palliative care. Telemedicine (the use of electronic communication technologies) has spread very quickly in networking patients, carers and health professionals (46). Telemedicine implies that we use telephone, software and video to speed up and make easier communication between patients and carers, or patients of healthcare professionals. Of course, provided that everyone has mastered modern technologies. In the conditions of an apandemic, replacement is valuable when personal contacts are reduced to a minimum and reduced to emergencies. Of course, similar consultations are still invaluable for palliative patients, but telemedicine can help manage symptoms, reduce the number of patients in the hospital, and reduce patient mortality. It can also facilitate and improve the patient's quality of life, as well as provide valuable advice to the family caring for the patient in the palliative phase. Communication technologies enable virtual visits of doctors to patients, caregivers to patients, relatives of patients in the hospital, doctor's consultations. And as such, moral and psychological support to the end-of-life patient (and who may be in isolation due to the pandemic) may be significant. Therefore, the issue of networking (primarily limited access to technology and connectivity) should be resolved, patient privacy should be preserved, healthcare professionals should be trained to use the necessary platforms and finally funds should be provided for their uninterrupted use. Health resources should also be harmonized according to the needs of society (20,47). Also, telemedicine can play a vital role in the post-pandemic environment and period.

PALLIATIVE CARE - AN ETHICAL IMPERATIVE

According to ethical principles, palliative care should be provided to all patients in need. During a pandemic, drugs, equipment and human resources must be properly distributed. This requires a high level of personal, social and institutional solidarity and responsibility, which is even more pronounced at the time of COVID-19. According to international list of human rights, governments cannot deny or restrict equal access to preventive, curative or palliative services (48). Human rights activists warn that denying access to internationally controlled painkillers is cruel and inhumane treatment (49).

According to international law, the elderly, wherever they may be (at home, in homes, prisons, shelters, refugee



accommodation), have the right to palliative care and basic medicines that accompany it. Taking into account the increased risks that the elderly face during the pandemic, as well as the limited health capacities, more attention should be paid to palliative care. The elderly have the right to a dignified death without pain (50). Although UN members have committed themselves in the World Health Assembly Resolution COVID-19 (51) to provide palliative care as a basic service with prevention, treatment and rehabilitation, some countries have not yet done so. Implementation requires a serious campaign. The current crisis could serve to provide additional funding and reform existing health systems.

RECOMMENDATIONS TO MEMBER STATES OF THE UNITED NATIONS

Recommendations given to the member states of the United Nations:

- Holistic national strategies for COVID-19 should be developed with prevention, medical, palliative and psycho-social care. Education is needed to break the stereotypes about COVID-19.
- Include palliative care as a form of combating COVID-19. Linking palliative care services to health systems would develop a new practice to support colleagues, patients and their families. By including telemedicine, future pandemics would be better prepared to welcome and provide timely assistance to patients.
- It is necessary to train health workers in the necessary protocols (on infection control, use of protective equipment), as they continued to provide palliative care without fear of infection.
- Continuous provision of health services, including palliative care, maintains the health of the population, emphasizing ethics.
- The list of models of essential drugs of the World Health Organization (WHO) from 2019 also includes formulations of opioid analgesics. They are most commonly used to control felling of pain and distress of respiratory tract, as well as sedatives and anxiolytics (example of that drugs are midazolam and diazepam). The Model List (EML) exists at electronically form and can be found at list.essentialmeds.org.
- The directive of the International Narcotics Control Board (52) needs to be adopted. This maintains constant approach to opioid drugs and controlled s by simplifying procedures such as export, transport and delivery. Access to basic medicines, even those that are internationally controlled, such as morphine, is a "basic obligation" that all states must provide.
- Palliative care teams need to be formed to respond quickly. It is necessary that everything is well planned, that the teams have the necessary guidelines, resources and medicines, which would diminish the negative influence of the pandemic.
- Training (and online training) of clinicians on the use of opioids and benzodiazepines to control COVID-19-

related symptoms should be accelerated. It is also necessary to train specialist medical staff to deliver opioids to patients who receive palliative care at home.

- Each country needs to adjust and adopt the basic package of palliative care services contained in the Lancet Commission's report on a global approach to palliative care and pain relief. This will provide (1):
 - Training of doctors and medical staff for triage in order to provide the necessary care in a timely manner during a pandemic.
 - Appropriate access to equipment and medicines needed
- Connect existing digital health platforms. This would facilitate communication between patients and doctors, as well as health teams. In this way, comprehensive, timely and high-quality care would be created.
- It is necessary to ensure the involvement of society and the public, in order to set priorities and guarantee prevention, treatment and palliative care for all who need it.
- We should pay attention to vulnerable populations - groups at high risk of COVID-19 (53):
 - First of all, there is the care of patients who are more vulnerable due to destitution, homelessness, isolation from social happenings or discrimination. Taking care of them can also include appropriate psycho-social services.
 - Caring for patients who are particularly susceptible to infection because they have a chronic illness or are disabled. Sometimes, due to their life situation, increased protective measures are needed.
 - Minor patients will be cared for according to the principle of "superior interest of the child" (4, 54, 55, 1).

CONCLUSION

The COVID-19 pandemic triggered numerous social and health problems that we have to tackle with. When the health systems have become tense under the onslaught of COVID-19, providing safe and efficient care, and end-of-life care becomes particularly difficult. We are witnesses that infection is spreading and mortality rates are escalating and as a result all health systems are increasingly relying on primary care and services provided by specialist palliative care. Contribution of palliative care in the midst of COVID-19 is necessary to be appropriately discussed. We should focus on pain and worsen symptoms; urgent pre-planned care and objectives, discussion of care given the rapid decompensation of COVID-19 patients; ethical issues related to end-of-life decisions and discontinuation of treatment. The attention should also be paid on recognition of anticipatory grief for family members and caregivers and managing complex care needs which are required by high-risk patients, especially the elderly, those with main diseases and the immunocompromised. The COVID-19 pandemic presents new, stressful or even traumatic situation for healthcare professionals and social workers. They tackle with making decisions of resource allocation, multiple deaths and fear of death or endangering



one's own families. By providing palliative care, managing symptoms and pain, providing comfort in dying and spiritual care it is obvious that the supporting health teams must be part of the response to COVID-19. If we want to sum up, we can say that palliative care is essential, vital and crucial part of healthcare system and we can compare it to mechanical ventilation. All this leads to the conclusion that palliative care is to be integrated into national and international plans.

Palliative care proves to be not a luxury but it can be said that it is a crucial human right and an essential, far-reaching response to COVID-19.

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