Lebanese Doctors Facing the SARS-CoV-2 Pandemic: Practical and Ethical Issues

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Abstract

Background

In the light of the COVID-19 pandemic, the role of health care providers is essential to maintain the functioning of the health care system. Physicians accept a primary ethical duty to place the well-being and health of their patients above their own welfares. However, does the duty to patient well-being have any limit? Two ethical concerns are debated: public health's ethical principles and medical ethics values. We aimed in this study to assess Lebanese physicians' attitudes, practice and ethical considerations when treating their patients during the COVID-19 pandemic.

Materials and methods

It's a cross-sectional study conducted in March 2019 among a random sample of Lebanese physicians, using a questionnaire based mainly on a five-point Likert numerical scale to make the answers more reliable and valid. The questionnaire focused on the medical practice during the pandemic and the ethical considerations in public health and in medical practice. It also evaluates the physicians' point of view toward the management of the pandemic in Lebanon.

Results

A total of 318 physicians responded, with a mean age of 40 years. Five doctors of the total were affected by the COVID-19 infection (1.6%). 51.4% of medical specialists considered themselves to be at a higher risk of contracting the infection, while 52.3% of surgeons stated that they were at a lower risk. Doctors expressed a neutral position regarding the prioritization of patients during treatment and the disconnection of patients with poor prognosis from ventilators to treat other patients. The majority of doctors disagreed regarding the respect of the patient's autonomy in refusing COVID-19 treatment with a mean score of 1.7/5. Finally, doctors expressed a neutral opinion regarding the ability of the country to manage such a pandemic with a mean score of 3.1/5.

Conclusion

Although physicians recognize that they are at high risk of contracting COVID-19, they assume their responsibilities and their duty to treat, and they were neutral against any prioritization in treatment approach. However, applying the four ethical principles (autonomy, beneficence, non-maleficence and justice) may become challenging. Hence, more medical and ethical recommendations are required to guide physicians during this pandemic.

Introduction

SARS-CoV-2 outbreak is a new highly transmissible viral illness caused by a new strain of the coronavirus family (1). Since December 2019, the world has been blasted with this biological hazard that initially arose in Wuhan-China to surpass all national barriers in a matter of weeks and thereafter became a pandemic as of March 12th, 2020 (2). A swift viral spread that led to a transcontinental lockdown overwhelming various medical systems and slowing down global economy, disturbing social and societal values. Limiting contagion among its countrymen became the priority of every health care system around the globe (3).

To achieve this goal, health care providers' participation is essential to maintain the functioning of the medical system during this crisis. Society spontaneously assumes that physicians, nurses, paramedical professionals and out-of-hospital personnel will get involved spontaneously, ignoring the risk to themselves and/or their families.

When it comes to doctors being in front line during pandemics, some questions arise: How will their medical practice be affected? Should they, and will they, accept to work rather than refuse it? How will ethics affect their attitude, judgment and decision when treating their patients?

In fact, physicians accept a primary ethical duty to place the well-being and health of their patients above their own welfares (4): in 1918, the Spanish flu pandemic killed more than 600 physicians in the United States and nearly two percent of South African physicians (5). During the Ebola outbreak in 2014, hundreds of health care workers died in West Africa (6). However, does the duty to patient well-being have any limit?

During a pandemic, two ethical concerns are debated. On the one hand, ethical principles of public health and preventive medicine guide government and health authorities to implement adequate and efficient measures in order to ensure an optimal protection of their society and healthcare professionals (7). On the other hand, the four ethical principles of medical practice (autonomy, beneficence, non-maleficence, and justice) originally proposed by Beauchamp and Childress guide clinicians to take morally sound decisions (8,9). Nevertheless, applying these principles in a pandemic situation may become challenging, especially when treating patients and ensuring physicians' safety overlap (7).

In the light of the COVID-19 pandemic, these ethical considerations are debated worldwide according to the social considerations, health care system and facilities in each country. Lebanon is no exception. Therefore, this study aims to highlight the factors that influence the medical practice during COVID-19 pandemic in Lebanon. It assesses the ethical considerations of Lebanese physicians when treating their patients, considering their duty to provide care despite personal risks.

Materials And Methods

Study design and data collection

A cross-sectional study was conducted during one week starting 29th of March 2019 among a random sample of Lebanese physicians registered at the Lebanese Order of Physicians in Beirut and Tripoli from all specialties.

Data were collected via an anonymous online questionnaire, available in French (Appendix 1) and English (Appendix 2) in Google Forms® format and compiled into a protected database, only accessible to the research team. A link to the questionnaire was sent via WhatsApp®.

The first part of the questionnaire enquired about sociodemographic data and characteristics of the participants. The second part focused on the medical practice during the pandemic. The third and fourth part aimed to assess the ethical considerations in public health and in medical practice respectively. The last part evaluates the physicians' point of view toward the management of the pandemic in Lebanon. Respondents were asked to answer the items of the latter three sections by indicating their level of agreement using a five-point Likert numerical scale. The advantage of this method is that people are not forced to express an either-or opinion which makes their answer more reliable and valid.

Ethical approval

The study's protocol has been approved by the "ethics committee of Hôtel Dieu de France Hospital".

Statistical analysis

Continuous variables will be described by their mean and range, and categorical variables by the numbers (N) and percentages (%) of each category. All continuous variables will be analyzed as such and not categorized. Chi-2 test will be used for the comparison of categorical variables between groups, and t-test when evaluating the difference means of two independent groups. All tests will be two-tailed and considered statistically significant for $p < 0.05$. SPSS Statistics version 25.0 (IBM Corporation, New York, USA) will be used for statistical analysis.

Results

A total of 318 physicians responded to the survey. The age of participants ranged from 24 to 80 years old with a mean age of 40 years, with 173 men (54.4%) and 145 women (45.6%). Among responders, 207 practiced in Beirut (65.1%), 135 in Mount Lebanon (42.5%), 19 in the North governorate (6%), 9 in Beqaa (2.8%), 8 in the South governorate (2.5%) and 4 worked abroad (1.3%). The majority of workplaces consisted of a university hospital in 247 cases (77.7%), clinics in 92 cases (28.9%), non-university hospital in 55 cases (17.3%), dispensary in 36 cases (11.3%) and non-governmental organizations in 12 cases (3.8%).

Table 1 shows that 148 participants had a medical specialty (46.5%), 65 had a surgical specialty (20.4%), 34 were family medicine specialists (10.7%), 31 anesthesiologists (9.7%), 18 pediatricians (5.7%), 8 psychiatrists (2.5%), 7 radiologists (2.2%), 6 pathologists (1.9%) and one radiotherapist (0.3%).

Table 1: Patient characteristics

Characteristics	N, (%)
Age, mean (range) – years	40 (24-80)
Gender	
Men	173 (54.5)
Women	145 (45.6)
Region of practice	
Beirut	207 (65.1)
Mount-Lebanon	135 (42.5)
North governorate	19 (6)
Beqaa	9 (2.8)
South governorate	8 (2.5)
Abroad	4 (1.3)
Workplaces	
University hospital	247 (77.7)
Clinics	92 (28.9)
Non-university hospital	55 (17.3)
Dispensary	36 (11.3)
Non-governmental organizations	12 (3.8)
Distribution of specialties	
Medical specialty	148 (46.5)
Surgical specialty	65 (20.4)
Family medicine	34 (10.7)
Anesthesiologists	31 (9.7)
Pediatricians	18 (5.7)
Others *	22 (7)

* Others, include psychiatrists, radiologists, pathologists and radiotherapists.

Five doctors out of 318 were affected by the COVID-19 virus (1.6%), 313 were not, out of whom 27 were quarantined (8.5%) after being in contact with a COVID-19 positive cases. Out of the 5 affected physicians, 3 had a medical specialty (2 cardiologists and 1 gastroenterologist), one was a family medicine specialist, and one was a general surgeon; hence a ratio of 4:1 for infected non-surgical specialists compared to surgical specialists. Among the 27 individuals who were quarantined, 17 had a medical specialty, 3 were family medicine specialists, 3 were anesthesiologists, 2 were pediatricians and 2 were surgeons. This leads to a ratio of 4.4:1 of quarantined non-surgical specialists compared to surgical specialists.

Participants were asked about the risk of contracting the COVID-19 virus depending on their respective specialty. Figure 1 shows that of the 148 medical specialists, 76 considered themselves at an increased risk of being infected (51.4%), 36 at a lower risk of being infected (24.3%), while 36 considered that all specialties had the same transmission risk (24.3%). Similarly, 25 out of 34 family medicine specialists thought that they are at an increased risk (73.5%), 5 at a lower risk (14.7%), and 4 considered that all specialties had the same transmission risk (11.8%). In addition, 27 out of 31 anesthesiologists viewed their specialty as being at a greater risk of virus transmission compared to others (87.1%), while 3 (9.7%) and 1 (3.2%) considered it at a lower risk and at the same risk relatively to other specialties, respectively. On the other hand, 34 out of 65 surgeons considered that they were at lower risk of contracting the coronavirus (52.3%), compared to 16 who considered themselves at a higher risk (24.6%), and 15 who thought that no specialty was at an increased or decreased risk compared to others (23.1%).

Fifty-nine of responders stated that they have had to treat patients affected by the coronavirus (18.6%). Figure 2 summarizes the fears of physicians when treating COVID-19-patients. In fact, 294 out of 318 participants were worried about transmitting the virus to their family (92.5%), 231 to their patients (72.6%) and 191 feared of contracting the virus themselves (60.1%), while 12 had no fear when dealing with sick patients (3.8%).

We evaluated the willingness of physicians of different specialties to adopt an “on call” system during the crisis period in order to minimize the number of staff in contact with infected patients, and found that the majority were ready to adopt this strategy with a mean score of 4.5. Similarly, the majority of responders agreed with the disclosure of the identities of all infected patients with the intent of protecting their contacts and the society, with a mean score of 4.

Treating patients by priority has emerged during this pandemic and was observed in countries with a high incidence of new cases and deaths, attributed to the insufficiency of medical supplies for treating all affected patients, namely the severe cases. Participants in this survey were relatively neutral regarding this subject, with a mean score of 3.3. 132 out of 318 (41.5%) stated that no patient should be prioritized over another one. Among the 186 physicians who agreed that patients should be selected according to a priority order during crisis, 157 (84.4%) considered that pregnant women should be prioritized, followed by immunosuppressed patients in 137 cases (73.7%), 94 (50.5%) and 91 (48.9%) favored young and

elderly individuals, respectively, and patients with chronic stable disease were considered a priority in 87 cases (46.8%).

Among the 318 participants, 163 considered that it was their duty to treat COVID-19-patients (51.3%), while 108 considered it their medical mission (34%), 26 their obligation (8.2%), and 21 as a choice they can accept or refuse (6.6%).

Since the emergence of this pandemic with a high interindividual transmission rate and a risk of hospitalization and death that increased with age (10), the scientific committee worldwide launched many studies and trials of drugs for the treatment of this disease. However, some drugs were approved locally in some countries but not by the Food and Drug Administration (FDA) or the European Medicines Agency (EMA). The majority of physicians in this study stated that they would use a molecule, even though not FDA- or EMA-approved, for the treatment of critically-ill patients, with a mean score of 4.

If it happens to lack specialists in the frontline departments dealing with coronavirus patients, namely the emergency, intensive care or infectious disease departments, the majority of doctors of different specialties agreed to assist when they are requisitioned, with a mean score of 4.3. With the increasing number of affected patients, more cases will need intensive care unit (ICU) monitoring and management; hence, these units may run short of mechanical ventilators. Physicians were asked if they would disconnect a patient with a very poor prognosis on a ventilator if the latter is needed to treat another patient that is considered to be a priority, and were found to adopt a neutral position with no agreement or disagreement regarding this statement, and a mean score of 3.2.

With COVID-19 pandemic representing a community threat, ethical questions arise such as the autonomy of an affected patient to refuse intrahospital care when needed, knowing that he might not be compliant to quarantine. Responders disagreed with the principle of autonomy and stated that it should not be respected in this case, with a mean score of 1.7.

Regarding the management of this crisis in Lebanon, physicians were indifferent regarding the ability of the country to manage such a pandemic, and did not adopt a supportive or a discouraging opinion, with a mean score of 3.1. Moreover, when judging the management of the medical crisis in Lebanon on a score from 1 to 5, the mean score of participants was 3.7 (Figure 3).

Discussion

This cross-sectional survey enrolled 318 Lebanese physicians, including men and women of different ages and specialties, practicing in many regions and having multiple socio-economic and cultural backgrounds.

According to the literature, medical doctors, like the general population, may have an exaggerated perception of their personal risk during a pandemic (4). However, during this COVID-19 pandemic, a high

proportion of healthcare workers became infected with the virus, with numbers reaching 20% in Italy, making this increased risk an alarming reality rather than a perception (11).

In this perspective, when asked about the risk of contracting COVID-19, the majority of family doctors or medical specialists considered themselves at higher risk of infection, they attributed it to the diverse symptoms and manifestations related to this viral infection; patients may seek consultation with any type of medical specialty: family medicine, internal medicine, infectious disease, pulmonology, emergency medicine.... At the same time, anesthesiologists considered themselves to be the most at risk during work compared to other specialties, which could be related to airway exposure during intubation in the operating, or intensive care unit. Surgeons, however, considered themselves at a lower risk of contracting the virus relatively to other specialties, since elective surgery are postponed and they are often face covered with surgical mask when interacting with patients in the operating room. and this.

In general, the risk of infectious disease is an inevitable consequence of caring for patients who may be asymptomatic carriers (20%) or who do have mild disease. Over the years and during pandemics, many types of airborne infections have been transmitted to health care workers and many lives have been lost among the medical staff. For instance, the world still remembers Carlo Urbani, the World Health Organization physician who investigated and alarmed the world over the SARS epidemic before the virus killed him in 2003 (12). With that in mind, doctors have major concerns with airborne or air droplets epidemics, but as our study shows, the vast majority of them fear spreading the virus to their families first, then to their patients, and finally to themselves. Only 3.8% of physicians were not afraid when dealing with infected patients.

Therefore, faced with these real concerns, do healthcare workers have a choice and avoid treating infected patients in the perspective of limiting their personal risk and that of their families? In this survey, more than 90% of physicians considered that treating patients with COVID-19 was not an option it was an obligation. For them, this was widely seen as a duty, then a medical mission, then an obligation. In fact, these terms are often used interchangeably, but they do not mean the same (13).

The duty to treat is considered to be the natural consequence of a social contract between doctors and the public. This contract empowers the medical profession as they are the one in charge of the medical treatments (4). So, if we accept the duty to treat, could there be limitations to this duty (14)? During past pandemics such as the Spanish flu, doctors were considered to have a "mission". They were the "heroes" whose mission was to take care of patients and save the world. No single reason should have compromised their principle of altruism (4,14). Does this mean that it is an obligation, just as the military are most at risk in wartime? Don't doctors have the right to choose which patients to treat? After lengthy debate, the American Medical Association (AMA) implemented in 2004 new wording for "Physician's Obligation in Disaster Preparedness and Response" (14). However, since no personal or professional duties are ever absolute, the AMA's code listed the exceptions that physicians can use, on an individual level, to refuse treating in the event of a severe pandemic. Specific examples were listed for four themes:

physical health, mental health, competing personal obligations and unacceptable levels of personal risk (4,13).

Nonetheless, as is widely seen, and in line with the beneficence ethical principle, physicians and health care professionals rarely refuse to provide care during a pandemic. In our survey, the vast majority of doctors declared that they were even willing to help if they were requisitioned in the event of a lack of specialists in the main specialties dealing with the disease, such as intensive care, emergencies and infectious diseases. In addition, the majority of doctors said they were ready to adopt an “on call” system during the crisis period. However, this “on call” system should be organized to limit the spread of the disease to all health care workers, but should not let the burden fall on a small number of physicians, nor encourage some of them to opt out from their duties (4).

To prevent patient harm, and thus respect the non-maleficence ethical principle, decisions need to be based on evidence, principles, and values. Regarding treatments, contrary to what is observed in other known diseases for which drugs have been approved after thorough clinical studies and requiring the FDA and/or EMA approval for prescription, the actual pandemic and crisis state shed light on the global need for immediate treatment which prompted doctors to prescribe drugs with a possible benefit, albeit small, for treating affected patients. In the era of evidence-based medicine, decisions for treating patients infected with COVID-19 are not always supported by evidence and recommendations but by expert opinion that demonstrate an efficacy of drugs that are proven safe in the treatment of another disease or that have well known adverse events. Doctors in this investigation were in favor of such an approach. However, in the absence of randomized control trials and clear-cut evidence, these drugs are usually used as a “last resort” or in the context of clinical trials. Therefore, beneficence and non-maleficence are two overlapping principles that can be argued from different angles (7,15).

Justice is also a debatable ethical principle during pandemics. Should we treat the patients by priority? In which case, who would be the priority? The people most likely to recover, the patients suffering the most or the most commendable people (16)? In fact, although no doctor wants to see a patient not receiving the best medical care, in times of pandemic, contagion means additional pressure on limited medical resources which can become saturated, and physicians may find themselves obliged to choose which patient to treat. When asked in the survey, 60% of doctors stated that patients should be treated by priority, considering pregnant women as a first priority, then immunocompromised patients followed by young patients and the elderly. Still, 40% of them declared that no patient should be prioritized over another. On another note, in this questionnaire, physicians revealed a neutral position concerning the withdrawal of mechanical ventilation from a patient with a poor prognosis if the latter is needed to treat a higher “priority” patient. Again, the occurrences of the latter term are difficult to interpret and is based on personal values, but this largely shows the impact of societal, moral, and ethical issues that doctors faces and that are hardly resolved by a simple answer or in a same manner by different physicians.

Autonomy is another primordial issue always addressed, especially during pandemics. Breaking medical privacy by disclosing the identity of sick patients is known to be discordant with the ethical principles of

medical practice; however, during this crisis, the majority of physicians were in favor of revealing the identity of patients who refuse to adhere to strict recommendations in order to protect their families and communities. This is indeed in accordance with ethical guidelines and laws that allow and require us to marginalize the privacy of patients for the greater good of the population (7,16).

Finally, concerning the management of the crisis in Lebanon, physicians seem to adopt a neutral position with regard to the country's capacity to manage such a pandemic, probably because of the uncertainty of the evolution of the disease, which remains a worldwide problem. The medical staff remains ethically responsible for putting the interests and well-being of the patient first.

Conclusion

To our knowledge, this is the first study that addressed the physicians' attitudes, practice and ethical considerations when treating their patients during the COVID-19 pandemic. As shown in our study, although physicians recognize that they are at high risk of contracting COVID-19, they assume, above all, their responsibilities and their duty to treat. However, when the welfare of the patient and the physician overlap, applying the four ethical principles (autonomy, beneficence, non-maleficence and justice) may become challenging. Hence, it is important to identify the limits medical and self-protection in order to minimize the risks on physicians so they can be available to care for the different waves of infected patients (4). With this said, more medical and ethical recommendations should be published to guide physicians during this pandemic to "stay and fight" (12,16,17).

Declarations

Ethical approval and consent to participate : The approval for this study was obtained by the "ethics committee of Hôtel Dieu de France Hospital "

Consent for publication: Not applicable

Availability of data and materials: The datasets generated and analyzed are not publicly available for institutional purposes but are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests

Fundings: No fundings needed.

Authors' contribution : HRK and JK conceived and designed the study. NG, FH AND RE wrote the manuscript. All authors have read and approved the manuscript.

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Figures

Figure 1

Comparison of the risk of virus transmission according to doctors of different specialties

Figure 2

Fear of physicians when treating COVID-19 patients

Figure 3

Mean score over 5 of the opinions of physicians during this crisis

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