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EDITORIAL

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Trials and tribulations of young residents fighting COVID-19

No one could foresee that an unknown novel virus far away in Asia eventually would end up as world's largest disaster. As days went by, COVID-19 soon began gaining international attention with its significant infectiousness, rapidly deteriorating course and mortality, even in young people. A spread throughout Asia was observed, while Europe held its breath. And before we knew it, agonizing scenes could be witnessed in Italy, spreading throughout the European continent.

A dramatic shift in the way we live and work has taken place in just a few weeks. Public health measures such as social distancing, social isolation and quarantine were taken at a rapid pace. All for the common purpose of "flattening the (epidemiological) curve" so that demand and availability of medical care can remain in balance. Routine clinical work was ceased, and wards were rapidly prepared to take in dozens of COVID-affected patients. ICU capacity was significantly ramped up. Nonurgent clinical procedures were sought to be postponed. The hospital soon evolved into a fortress guarded by nurses armed with thermometers only allowing access to those without fever. As junior residents in internal medicine, with just 6 months of clinical practice, we were deployed in no time at the COVID-19 wards. A new chapter in our medical training began.

As more and more COVID-19-positive patients started to fill up the prepared wards, new practical and logistical problems popped up. Since these patients can deteriorate rapidly, frequent clinical check-ups are required obligating us to change into our battle suits multiple times a day. Being our clumsy self, each dress-up warrants a potential self-infection as we are scanting with the flowy surgical robes and tight, hypercapnia inducing FFP-2 masks. By working at a COVID-19 ward, we are constantly balancing on providing qualitative medical care and otherwise trying to effectively protect ourselves against the virus.

Scarcity of personal protective equipment (PPE) soon became a problem. Even though our entire society supports the efforts to "flatten the curve," healthcare workers are already forced to work in suboptimal safety conditions. Besides the scarcity of PPE's, an imminent shortage of respirators is also observed. At the moment, 16.5% of patients need supportive mechanical ventilation in Belgium.[1] A well-considered choice has to be made for which patients it is most necessary while at the same time therapeutic benefit has to be taken into account.

Consequently, we as residents are now more than ever confronted with end-of-life wishes and decisions. Social distancing measures force us to discuss DNR codes with patients' relatives by phone. This physical barrier creates a discordance which goes against the social involvement and compassion we like to pursue. By being exposed to these harrowing choices and scenes, healthcare workers are at a much higher risk to develop psychological distress, burnout or even compassion fatigue.[2]

Amongst medical staff, there is a lot of uncertainty about how to cope with terminal COVID patients and their family. At this moment, hospital policy concerning terminally ill patients states that only one family member is allowed to visit the patient once, with protective measures and without physical contact. This complicated bereavement could trigger a pathological grieving process.[3] In times of these inhumane (yet understandable) measures, little moments of care and gratitude strike us everyday: drawings of grandchildren colouring the blanc hospital walls, a nurse holding the hand of a scared patient and the many chocolates and treats sent by nearby bakeries. Thirdly, the emerge of the COVID-19 crisis had disrupted our medical traineeship. All residents were reassigned to COVID-19 wards or at the emergency department to help with patients' triage. This new working environment invites us to function more intense in a multidisciplinary team offering different learning opportunities. Integrating all aspects of internal medicine is key in tackling the coronavirus. On the other hand, it limits our education moments because of all cancelled lessons, grand rounds and symposia.

Nothing during our medical school had prepared us for an outbreak at this proportion. The uncertainty on how long this crisis is going to last is terrifying. Are we running a marathon or a 100-m sprint?

At leisure time, we try to keep up with new scientific evidence on the management of coronavirus pandemic. In times of uncertainty and chaos, as a junior resident you crave for a protocol and well-established guidelines. However, a significant proportion of policy and therapeutic options are based on limited and questionable data. Since there is little consensus, many decisions at bedside are based on gut feeling and

prior experience. A skill we have yet to master. Little by little, case by case our experience grows with this new pathogen.

Nostalgically, our thoughts wander to our proclamation a couple of months ago. In September, we swore the Hippocratic oath as a last rite of passage: Primum non nocere. Proud to finally complete medical school after 6 years, we and 157 other young ambitious doctors solemnly swore to do no harm to our patients, embracing the ethical principles of nonmaleficence. Little did we know our diligence would soon be put to the test by a microscopic intruder.

Our first months as a resident in internal medicine we stood by The Oath. However, with the emerging COVID-19 crisis we are not so sure we are completely harmless as we are working with both COVID-19-positive and COVID-19-negative patients. Epidemiological data from China stipulate that 3.84% of all patients were health workers[4] and that 41% of all patients were presumably infected with the COVID-19 virus during their hospitalization.[5] These nosocomial infections were partially caused by transmission via asymptomatic visitors or health workers.[6] As vital 25-year-olds, we could turn into a potential asymptomatic superspreader of coronavirus, a viral vector from a sealed COVID-19 ward to high-risk patients, other valuable health workers or our own family.

However, the COVID-19 pandemic could redefine ethical paradigm considering professional attitude amongst healthcare workers. Whereas in normal conditions residents are considered to work with mild respiratory symptoms or even fever, the effect of these apparent altruistic actions is now put in a different perspective.

Despite the overwhelming warm public initiatives empowering the health sector, healthcare workers are confronted with social stigmata isolating them even more from their loved ones. While the virus progressively unravels social networks and dominates every small talk topic, the psychological burden on health workers increases. A recent cross-sectional study of 1257 healthcare workers in multiple regions of China showed that 50.4% of frontline health workers reported symptoms of depression, 44.6% of anxiety and 71.5% of general distress.[7] The rapidly changing medical landscape requires constant flexibility and pragmatism. Nonetheless, the COVID-19 pandemic establishes a united front amongst healthcare workers entitled by a feeling of togetherness.

To conclude, COVID-19 exerts a dramatic impact on our society and on our individual lives. At this moment, the number of patients is still rising. As junior residents, we stand in the frontline of this battle. At the same time, our lack of experience can sometimes give us a feeling of extreme doubt. Because of the major impact of COVID-19, patients are treated interdisciplinary. And thus, discussion about doubtful cases is more than ever a learning experience because of its multidisciplinary character. Every day is an emotional rollercoaster during this situation of crisis. Will this pandemic affect the way we practice medicine forever? Will this virus leave its marks on society and impact the way we live and deal with one another? Many thoughts wander through our minds while doing rounds. But at the end of the day, we change out of our scrubs and catch the last rays of sunlight.

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REFERENCES

1. Sciensano. Belgian Institution of National Health. COVID-19. Belgian epidemiological data on 03/04/2020. [Internet]. 2020. https://epidemio.wiv-isp.be/ID/Documents/Covid19/COVID-19_Dailyreport_20200403-NL.pdf
2. Hendin A, La Riviere CG, Williscroft DM, O'Connor E, Hughes J, Fischer LM. End-of-life care in the emergency department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19). *CJEM*. 2020;1-4. https://doi.org/10.1017/cem.2020.352
3. Borasio GD, Gamondi C, Obrist M, Jox R, Ch FTC-TFOP. COVID- 19: decision making and palliative care. *Swiss Med Wkly*. 2020;150:w20233.

4. Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention. [The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2020;41(2):145-151.
5. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA*. 2020;323(11):1061-1069.
6. Wang Y, Wang Y, Chen Y, Qin Q. Unique epidemiological and clinical features of the emerging 2019 novel coronavirus pneumonia (COVID-19) implicate special control measures. *J Med Virol*. 2020;92(6):568-576.
7. Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA*. 2020;3(3):e203976.