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## COVID-19 pandemic: demand creates its own supply in a residency program



### Pandemia COVID-19: A demanda cria sua própria oferta em programa de residência

*Dear Editor,*

The pandemic of COVID-19 tested both our vulnerability and resilience in all aspects of life including education. With the announcement of the COVID-19 pandemic, most of the educational programs were adversely affected including medical residency programs in teaching hospitals in many countries. Our anesthesiology residency program in Kurdistan University of Medical Science was not an exception. With the announcement of the appearance of the first cases of COVID-19 in our country we were so shocked that we stopped all teaching activities such as morning reports, journal clubs, weekly rounds, and noon conferences. Nevertheless, recovery is the essence of our specialty. Very soon we, as an academic department, recovered from the initial shock and restored our educational programs while considering safety measures.

We were already familiar with the concept and procedures of virtual and online learning. The new COVID-19 crisis made us use all means at hand to continue our teaching and learning. Let us borrow the phrase “demand creates its own supply” from Keynes (Greenlaw & Shapiro,<sup>1</sup> 2017) to explain the situation. We desperately needed to continue our trainings for our residents and at the same time keep all of us safe by avoiding gatherings and maintaining physical distance. We reviewed our programs and decided that one of the most valuable and indispensable programs was our morning report.

After consulting with our medical educationalist colleague in the university’s educational development center we formed an interactive group on WhatsApp and invited all residents, attendings, interns and residency alumni of the department. We chose WhatsApp because of its popularity and availability in Iran and its ability to create groups for discussions and text, voice, and video communications.

The night shift residents were instructed and obliged to upload their patients’ reports to the attendings in details in the group. They were also asked to upload one or two patients’ cases in the virtual group for virtual morning report. Confidentiality and the rights of patients to remain unidentifiable was emphasized and maintained. The residents uploaded history, physicals, Para clinic findings,

preoperative and post-operative measures, and patient management activities the night before the morning report.

All of the members of the virtual group were invited to attend the online morning report at 7:45 am. The night shift resident who was in charge explained the case and managed the discussions using texts, voice, and video messages.

The residents were obliged to present their cases based on evidence-based medicine principles especially with providing information on Patient, Intervention, Comparator, Outcome (PICO), and the procedure of searching for evidence (Pronovost et al.,<sup>2</sup> 2001). We urged residents to clarify their PICO as follows:

P – To briefly introduce the patients including their Physiopathology, previous and current history, preferences, and socioeconomic status while maintaining confidentiality.

I – To explain what Interventions they have considered and why.

C – To clarify what alternative they Compare their chosen intervention to.

O – To describe what Outcomes they hope to achieve.

All of these aspects provoked questions and discussions.

We had already trained our residents on EBM and they are able to explain how they converted the needs for information into a searchable question and where they found the best available evidence.

However, any educational program must be evaluated to determine usefulness and aptitude. This is true with any method of conducting morning reports. We evaluated this program using Kirkpatrick’s model for learning evaluation (Kirkpatrick & Kirkpatrick,<sup>3</sup> 2006). This model examines and evaluates the results of educational programs in four successive levels of reaction, learning, behavior, and results. Evaluation starts with level one, after which should continue in order through levels two, three, and four according to the aims and objectives of the evaluators. We evaluated our program at the first two levels to understand if the participants enjoyed their participations and if they found the material in the program useful in terms of learning.

All participants including residents, interns, alumni, and attendings expressed their satisfaction with the content and the procedure using the WhatsApp group throughout the day after each session. In addition, in our informal discussions with residents they maintained that they had learnt from the virtual morning reports and they found it as useful as face to face morning reports.

Creating and managing a strong alumni network is essential to a department’s success. We invited our alumni to join our virtual morning reports in their convenience. Their participation and their comments made a wider learning community and enriched our residents’ learning experi-

ences. Relationship with alumni had some spin-off benefits for our residents because this is an online meeting people can attend the meeting regardless their place and position. This increases the rate of participation, the degree of sharing experiences, and hopefully the rate of learning. As the cases are uploaded hours before the actual meeting participants find the opportunity to search and find information, they may need and get more prepared for the morning report meeting. This increases the rate of commenting and entering the discussions. The cases and discussions remain in the group for further elaborations and references.

A salient drawback of this virtual type of morning report is that it is far from normal and natural human face to face communications which are enriched with gesture, body language, expressing more emotions and humanity.

Based on this concrete experience we recommend this type of morning report in the time of COVID-19 pandemic and in similar situations as an alternative or complementary way of conducting morning reports when situation dictates.

### Conflict of interest

The authors declare no conflicts of interest.

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## Safety sequence intubation: the 10 “P’s” algorithm and cognitive aid for airway management in COVID-19 patients



### Sequência de segurança de intubação: o algoritmo 10 “Ps” e ferramenta cognitiva para manuseio de vias aéreas em pacientes com COVID-19

Dear Editor,

The past few months have shown an increasing incidence of transmission of SARS-CoV-2 from patients to health care providers (HCPs). Figures from China’s National Health Commission show that more than 3300 HCPs had been infected as of early March. In Italy, 20% of responding health-care workers were infected.<sup>1</sup> It is important to protect staff from transmission during high-risk procedures like tracheal intubation. The cognitive aid (Fig. 1) formulated suggests the following 10 P’s as a series of steps for safety sequence intubation in Coronavirus Disease (COVID-19) patients, with the intent to simplify the substantial amount of information currently related to COVID-19 in scientific literature.

1. Protection: All aerosol generating procedures (AGPs) are to be done in negative pressure isolation rooms with minimum personnel involved. WHO’s interim guidance published on March 19th, on “Rational use of

personal protective equipment for COVID-19” recommends, AGP-PPE to include respirator N95 or FFP2 standard, or equivalent, gown, gloves, eye protection and apron.<sup>2</sup>

2. Planning: Assign roles and responsibilities, plan the airway management strategy before entering the isolation room. Quick airway assessment of the patient can be done using MACOCHA score.<sup>3</sup> Subsequently airway plan (plan A to plan D) can be tailored by the team to achieve successful intubation in the first attempt. The team members should practice closed loop communication and watch for cross-contamination.
3. Preparation: This step involves preparation of patient specific airway equipment kit and drugs outside the isolation room. Cricothyroidotomy kit can be kept outside with the runner. Once inside the isolation room, check and assemble equipment using mnemonic SOAP ME (Fig. 1).
4. Position: Appropriate positioning of the patient recommends 30-degree head up to improve oxygenation and ramp position in the obese to ease intubation.
5. Pre-oxygenation: An appropriately sized well-fitting mask applied to the patient’s face using 2-person, 2-handed VE-grip for a better seal.<sup>4</sup> The preferable circuit is a closed dual limb circuit or rebreathing circuit like Mapleson’s C (Waters’) or coaxial modification of Mapleson’s D (Bain’s).
6. Pre-treatment: Judicious hemodynamic resuscitation can be undertaken.
7. Pressure: We recommend it to be used only when a trained assistant is available as it can cause difficulty in glottis visualization if not properly applied.