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## SPECIAL ARTICLE

# Reflections arising from the COVID-19 pandemic<sup>☆</sup>



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### KEYWORDS

Intensive care units;  
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**Abstract** While we were drafting the recommendations for the joint contingency plan between the Spanish Society of Intensive Care and Coronary Unit Nursing (SEEIUC) and the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICYUC), predictions were overtaken by events with regard to the magnitude of the COVID-19 pandemic. Members informed us of the lack of personal protection equipment (PPE), the rapid provision of improvised ICUs in various hospital areas and the recruitment of nurses to cover shifts. The failure to recognise the specialty of critical care nursing, included in the macro-specialty of medical–surgical nursing and not yet developed, has highlighted the urgent need to learn from our mistakes: specialisation, increase the number of nurses in teams and protect the public health system.

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### PALABRAS CLAVE

Unidades de cuidados  
intensivos;  
Enfermedad crítica;  
Atención de  
enfermería;  
Especialización

### Reflexiones derivadas de la pandemia COVID-19

**Resumen** Cuando redactábamos las recomendaciones para el plan de contingencia conjunto entre la Sociedad Española de Enfermería Intensiva y Unidades Coronarias (SEEIUC) y la Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias (SEMICYUC) los hechos iban por delante de las predicciones ante la magnitud de la pandemia del COVID-19. Socios y socias nos informaban de la falta de equipos de protección individual (EPI), la habilitación rápida de UCI improvisadas en zonas varias de hospitales y el reclutamiento de enfermeras para cubrir

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turnos. La falta de reconocimiento de la especialidad enfermera en cuidados críticos, englobada dentro la macroespecialidad de enfermería medicoquirúrgica, todavía sin desarrollar, ha puesto de relieve la necesidad urgente de aprender de los errores: especialidad, aumentar dotaciones en los equipos de enfermería y proteger el sistema sanitario público.

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On 31st December 2019, the Municipal Health Commission of Wuhan (province of China) reported a cluster of 27 cases of pneumonia of unknown aetiology, with common exposure at a wholesale market of seafood, fish and live animals, without identifying the source of the outbreak. On 7th January 2020 the Chinese authorities identified the source of the outbreak to be a new type of virus from the *Coronaviridae* family, which was called the “novel coronavirus”, 2019-nCoV. The virus was later named SARS-CoV-2 and the disease was called COVID-19. On 30th January the World Health Organisation declared the outbreak of SARS-CoV-2 in China a public health emergency of international concern.<sup>1</sup>

When you read this article 3 weeks will have passed since we wrote it and you may judge for yourselves whether the predictions made by the SEEIUC (Spanish Society of Intensive Care and Coronary Unit Nursing) and the SEMICYUC (Spanish Society of Intensive and Critical Care Medicine and Coronary Units) in the contingency plan<sup>1</sup> we published on our web sites and social media came true.

The reason for this special article is to leave a written record of how predictions were overtaken by events with regard to the magnitude of the COVID-19 pandemic. Whilst as authors of the contingency plan we determined the number of human, technical and material resources which could potentially be raised in the worst case scenario, some autonomous communities informed us of the shortage of personal protection equipment (PPE), the rapid provision of improvised ICUs in various hospital areas and the recruitment of nurses to cover shifts.

Regarding human resources we wrote in the contingency plan:

“Due to the greater possibility of contagion for professionals, provision must be made for a high possibility of sick leave which would entail a quarantine period of approximately two weeks, and for a longer duration in the case of severe illness. The overburden of the work and emotional stress involved in treating patients who may transmit diseases to personnel (and the latter in turn to their families) means that suitable periods of rest must be scrupulously observed, and in no event must be below that recommended by prevailing legislation.

As a result of all these issues, during the Coronavirus epidemic, a policy of extended, multidisciplinary staff, with available staff on standby, must be adopted to cover professional burn-out, and the high possibility of unplanned sick leave during working hours or immediately prior to the start of the working day. The usual ratio should be 1 nurse per shift and one for each two critically ill patients (up to 1:4 in

SDUs), with a reinforcement of 1 nurse for every 4–6 beds who can offer support at moments of maximum workload (prone positioning, intubation, carrying out special techniques, transfers, etc.) and for possible substitutions in case of sick leave during shifts. The support nurse has to be an experienced professional who may supplement the lesser experience and knowledge of other professionals.”

At the same time as these recommendations were being made we became aware through the media that untrained nurses with no specialist training in critical care were being recruited to ICUs. Doctors had an advantage here, they proposed recruiting 4th and 5th year residents. But how were they going to be able to do this with nurses if a resident nurse for the medical–surgical speciality does not even exist? We can hardly bring ourselves to mention the long-awaited and demanded Special Care nursing speciality. This was recognised by RD 992/1987<sup>2</sup> but was repealed in RD 450/2005,<sup>3</sup> when 8 specialties were recognised, with ours being the medical–surgical specialty, still pending development by the national commission.

However, the possibility of recruiting 4th year nursing degree students has been considered, to undertake support activities and under the supervision of a healthcare professional. It is asked that “the best students” be identified and those who have been student nurses in the emergency and ICU services.<sup>4</sup>

Regarding the nurse: patient ratios, we would have liked to have been able to recommend the NAS:patient (*Nursing Activities Score*) ratios. This scale measures the amount of work a nurse has per shift and whether it is a more realistic measurement than the nurse:patient ratio. It is validated in our cultural context<sup>5</sup> but is not a widely used scale in today’s ICUs for management of nursing staff.

Margadant et al.<sup>6</sup> recently flagged up that, although the scale was designed to suggest that a score of 100 determined the need for a full-time nurse, when over 61 points were reached the risk of mortality in the hospital increased (OR 1.285 95% CI [1.095–1.509]).

The time employed in putting on and removing PPE would be reflected on a scale measuring nursing interventions, but this is not the case for nurse/patient ratios when only the severity criteria prevail.

With regard to technical and material resources, we describe the characteristics which PPE should have, according to publications from the Ministry of Health<sup>7</sup>:

In accordance with Royal Decree 773/1997, “the equipment must be certified under (EU) Regulation 2016/425

governing personal protection equipment, evidenced by the CE conformity marking”.

When products such as gloves or masks are intended for medical use to prevent a disease in a patient they must be certified as medical products (MP) in accordance with Royal Decree 1591/2009, governing the same.

In general recommendations are to use disposable PPE or if not PPE that can be disinfected after use, adhering to the manufacturer’s recommendations.

The PPE must include:

- Gloves and protective clothing
- Respiratory protection
- Eye and face protection”

Colleagues and members of the Society have informed us of the scarcity of PPE, of the low quality of some of it and the motley and improvised adaptation of different utensils used as PPE for bedside caring for possible or confirmed cases of patients with COVID-19.

Despite this, we were forced to list some general considerations regarding the use of PPE, knowing from our own experience that the majority of them would not be able to be complied with<sup>8</sup>:

- Their objective is to reduce the risk of exposure for professionals and to maximise control of the infection.
- The use of standard precautions must be considered in ALL patients.
- Strict hand hygiene must be observed before and after contact with the patient and on removal of the PPE.
- ALL care and non care professionals must be aware of the type of PPE that should be used during any stage of care.
- There must be posters providing information and reminding staff to use PPE.
- ALL professionals must be trained in the use of PPE (putting on and removing), and whenever possible through the use of clinical simulation. Cross-over monitoring is recommended between professionals to avoid the inappropriate use of PPE.
- As far as possible the use of PPE will be optimised, adapting it to the care task to be undertaken by the professional: without contact with the patient/low risk of virus transmission contact (procedures without generation of aerosols)/high risk of virus transmission (procedures with generation of aerosols).
- In all cases where possible the use of non reusable PPE will be prioritised.
- Eyewear may be reused in accordance with the established cleansing procedure.
- Current recommendation is to use the mask only once. If necessary, masks may be reused by the same professional for a maximum period of 8 h activity. They must be changed if they are marked or faulty.
- Exposure times of a professional with a virus-positive patient and the possible incidences shall be recorded on a daily and individualised basis.
- Daily records of PPE consumption must be made in each unit, so as to adjust stocks required to specific needs.

- Following removal, the disposable PPE must be placed in containers which are suitable for disposal and be treated as class III medical waste.
- If the use of reusable PPE cannot be avoided, they must be collected into suitable containers or bags and decontaminated using the method recommended by the manufacturer, prior to storage.
- Remember to take the normal precautions when carrying out sterile procedures (zero protocols). Remember to wash your hands before and after touching each patient.

In this special article we wish to reflect that we must learn from our mistakes in order to avoid repeating them on further occasions. If the medical–surgical nursing speciality had been developed with a specific area for critically ill and/or high risk patient care, the human resources would have been easier to manage and more in keeping for the needs of the ICU teams.<sup>9</sup>

If healthcare cuts had not resulted in the reduction of nurses in teams we would have been better prepared in this current crisis situation to offer complementary teams to support the front line professionals who needed to be isolated, to respect rest periods and reduce shift hours.

As nurses and professionals in the care of critically ill patients, we would like to express our enormous gratitude to the general public for their recognition of our work and dedication. We also expressed this as SEEIUC in a post on 15th March to all members and social media.<sup>10</sup>

But we request that politicians and persons in charge of governmental institutions reporting to the Ministries of Health and Education learn from this experience so as not to commit the same errors: implement specialisation, increase the numbers of nurses in teams and protect the public health system.

## References

1. Plan de contingencia para los servicios de medicina intensiva frente a la pandemia covid-19. Available from: <https://seeiuc.org/wp-content/uploads/2020/03/Plan-de-Contingencia-COVID-19.pdf> [accessed 18 Mar 2020].
2. Real Decreto 450/2005, de 22 de abril, sobre especialidades de Enfermería. BOE 6-5-2005, núm. 108.
3. Real Decreto 992/1987, de 3 de julio, por el que se regula la obtención del título de enfermero especialista. BOE 1-8-1987, núm. 183.
4. Conferencia Nacional de Decanos de Enfermería. Especial COVID-19 (2). CNDE Informa n.º 6, 15 de marzo de 2020.
5. Sánchez-Sánchez MM, Arias-Rivera S, Fraile-Gamo MP, Thuissard-Vasallo IJ, Frutos-Vivar F. Validación de la versión en castellano del Nursing Activities Score. *Enferm Intensiva*. 2015;26:63–71.
6. Margadant C, Wortel S, Hoogendoorn M, Bosman R, Spijkstra JJ, Brinkman S, et al. The Nursing Activities Score per nurse ratio is associated with in-hospital mortality, whereas the patients per nurse ratio is not. *Crit Care Med*. 2020;48:3–9.
7. Ministerio de Sanidad y Consumo. Documento técnico. Prevención y control de la infección en el manejo de pacientes con COVID-19. Versión de 20 de febrero de 2020. Available from: <https://www.msccs.gob.es/profesionales/saludPublica/ccayes/>

- [alertasActual/nCov-China/documentos/Documento.Control\\_Infeccion.pdf](#) [accessed 17 Mar 2020].
8. Ministerio de Sanidad y Consumo. Procedimiento de actuación para los servicios de prevención de riesgos laborales frente a la exposición al nuevo coronavirus (SARS-COV-2). Versión de 11 de marzo de 2020. Available from: <https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/PrevencionRRL.COVID-19.pdf> [accessed 17 Mar 2020].
  9. Credland N. Critical care nurses will need our support as COVID-19 cases rise. *Nurs Stan.* 2020.
  10. Comunicado oficial SEEIUC y SEMICYUC. Available from: <https://twitter.com/seeiucoficial/status/1239155930090135557> [updated 15 Mar 2020; accessed 17 Mar 2020].