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Role of the pediatric emergency department during SARS-CoV-2 pandemic[☆]



Papel del pediatra de urgencias durante la pandemia por SARS-CoV-2

Dear Editor:

The impact of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) on the paediatric population has been generally benign, contrary to the significant morbidity and mortality observed in the adult population that overwhelmed the Spanish health care system in Spring 2020^{1,2}. During this first wave of the pandemic, the activity of paediatricians changed not only in terms of the care delivered to the paediatric population, but also in that they had to manage adult patients with illness of varying severity^{3,4}.

For this reason, the Working Group on Disasters and Multiple Casualty Incidents of the Sociedad Española de Urgencias Pediátricas (Spanish Society of Paediatric Emergency Medicine, SEUP) designed a study with the following objectives: (1) to describe the role of paediatric emergency physicians in the first wave of the coronavirus disease 2019 (COVID-19) pandemic, and (2) to define the new training needs of paediatricians to be ready for potential successive surges in cases.

The working group designed a prospective survey-based study focused on paediatricians with regular and/or on-call shifts in paediatric emergency departments (PEDs) of hospitals affiliated to the SEUP. We developed an anonymous questionnaire in Spanish to collect data on epidemiologi-

cal characteristics of the participants (age, sex, years of experience in emergency department and infection by SARS-CoV-2), hospital characteristics (type and level of care), professional activity during the pandemic (work setting, schedule, type of patients and training needs) and subjective experience of the early months of the pandemic (dichotomous questions about the fear of falling sick and transmitting the virus to household members, anxiety, being overwhelmed, information overload).

In June and July 2020, we sent 3 electronic mails to the directors of 85 PEDs asking them to distribute the questionnaire to paediatricians in the permanent staff or covering on-call shifts in their department. The study was approved by the ethics committees of the 3 hospitals that employed the principal investigators.

We received 104 responses to the questionnaire corresponding to 25 PEDs (29.4% of the hospitals invited to participate), of which 80.8% (84) were submitted by female respondents. The median age of participants was 41.5 years (interquartile range [IQR], 34–49,2) and the median work experience in the paediatric emergency setting was 10 years (IQR, 4–15). Of all paediatricians, 57.7% (60) worked in general hospitals and 42.3% (44) in specialised children's hospitals, 59.6% (62) worked in third-level hospitals, 33.6% (35) in second-level hospitals and 6.7% (7) in first-level hospitals, and participating hospitals received a median of 40 000 visits a year (IQR, 29 500–55 000). Of all respondents, 16.3% (17) had SARS-CoV-2 infection (of who 1 required hospital admission) and 12.5% (13) had to isolate at home.

Forty-one paediatricians (39.4%) had to move to a different work setting and 48 (46.2%) managed adult patients for varying amounts of time: less than a week (11; 22.9%), 1–4 weeks (11, 22.9%), 4–8 weeks (25, 52.1%) and more than 8 weeks (1; 2%). When it came to disease severity in the adult patients managed by paediatricians, 15 (31.2%) managed stable, 25 (52.1%) managed moderately ill patients and 8 (16.7%) managed patients with severe or life-threatening disease.

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Seventy-one (68.3%) of the paediatricians that participated in the study believed they need additional training in the fields of internal medicine (59.2%), intensive medicine (26.8%), emergency care (8.4%) and pulmonology (5.6%).

Paediatricians reported experiencing anxiety (76; 73.1%), fear of becoming ill (67; 64.4%) and worry about transmitting the infection to household members (91; 87.5%), feeling overwhelmed (30; 28.8%) and information overload (97; 93.3%). Twenty paediatricians (19.2%) required anti-anxiety and/or antidepressant drugs.

The risk factors for anxiety identified in the survey were employment in a general hospital (81.7% of paediatricians in general hospital with anxiety vs 61.4% of paediatricians in specialised hospitals; $P = .038$; odds ratio [OR], 2.8; 95% confidence interval [CI], 1.2–6.8) and younger age (median of 39.5 years in paediatricians with anxiety vs 45 years in paediatricians without anxiety; $P = .004$; OR, 0.94; 95% CI, 0.89–0.98). We did not find statistically significant differences based on other factors (sex, change of work setting, management of adult patients, infection by SARS-CoV-2).

In addition to the intrinsic limitations of survey-based studies, participation was voluntary, which could have been a source of significant bias. On the other hand, the impact of the first wave of the pandemic probably varied between PEDs in different geographical areas, affecting health care staff differently.

In the first wave of the SARS-CoV-2 pandemic, nearly half of paediatricians had to change work settings and manage adult patients with disease of varying severity, and many experienced anxiety and fear of getting infected. All of this must be taken into account in the planning of PEDs in upcoming months, when there will likely be additional waves of the pandemic and the activity of paediatric emergency physicians will be changing.

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Appendix A. Members of the Working Group on Disasters and Multiple Casualty Incidents of the Sociedad Española de Urgencias Pediátricas (SEUP)

Andina Martínez, David; Botifoll García, Eva; Clerigüé Arrieta, Nuria; de la Peña Garrido, Agustín; Bueno Barriocanal, Marta; Gilabert Iriondo, Nuria; Guerrero Márquez, Gloria; Lázaro Carreño, Maribel; Martínez Mejías, Abel; Miguez Navarro, Conchita; Muñoz Lozon, Ana; Murillo Pozo, María Angeles; Parra Cotanda, Cristina; Ranera Malga, Adrián; Rebordosa Martínez, Mónica; Rodrigo García, Rocío; Rodríguez Ortiz, Agustín; Ruperez García, Eva and Solano Navarro, Carmen.

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¹ The members of the Working Group on Disasters and Incidents with Multiple Victims of the Spanish Society of Pediatric Emergencies (SEUP) are presented in Appendix A.

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