obesity increased with the vulnerability of the neighbourhood where the school was located: no vulnerability, 13.7%; medium vulnerability, 16.0%; high vulnerability, 26.6% (P = .004) (Table 1). We did not detect statistically significant differences in the prevalence of overweight or of excess weight (obesity + overweight) based on the level of vulnerability. The prevalence of childhood obesity was higher in boys than in girls (17.7% vs 12.9%; P = .001), and the analysis did not evince significant differences between age groups. The probability of having childhood obesity is 49% greater in boys and twice as high in schoolchildren in schools located in neighbourhoods with a high level of urban vulnerability (P = .001) (Table 2).

There is a risk of selection bias in the study on account of a sampling method that, while appropriate for the initial report on obesity,[4] may not have been ideal for our study. While no schools represented the highest level of urban vulnerability, we detected statistically significant differences in comparison with the reference group. We did not have access to the residential addresses of the schoolchildren that participated in the study, which may have resulted in classification bias. However, since children usually attend a school near the home, it is unlikely that the magnitude of this bias was sufficient to affect the results.

Our findings demonstrate the correlation and deleterious effect of residing in areas of lower SES on the prevalence of childhood obesity. Social welfare and public health policies are required to address socioeconomic inequalities.

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Burnout in paediatric emergency departments☆,☆☆

Burnout en los pediatras de urgencias

To the editor:

Burnout syndrome refers to a maladaptive response to chronic stress at work.[1] It is an important problem in the health care field that has negative consequences for the professionals that suffer from it and for the patients, who are considered the secondary victims of burnout.[1,2]

Health care professionals employed in intensive care units and emergency departments are a collective that is particularly at risk of suffering burnout syndrome due to the specific characteristics of these settings (such as high caseloads, insufficient staff, rotating shift schedules).[1–3] In Spain, no studies have been conducted to analyse this subject in the paediatric emergency department (PED) setting, and therefore the prevalence of burnout in these departments is unknown.

Thus, we conducted a study with the following objectives: 1) to determine the prevalence of burnout syndrome in paediatricians staffing PEDs in Catalonia, and 2) to investigate risk factors for burnout.

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☆☆ Previous presentations: this study was presented as an oral communication at the XXIV Annual Meeting of the Sociedad Española de Urgencias de Pediatría; May 9–11, 2019; Murcia, Spain.

Table 1 Personal and professional characteristics of participants in the study ($N = 329$).

Variables	Percentage (n)
Sex	
Male	14% (46)
Female	86% (283)
Age	
≤30 years	39.8% (131)
31−40 years	38.0% (125)
≥41 years	22.2% (73)
Professional category	
Nurse	26.7% (88)
Nursing assistant	8.5% (28)
Adjunct physician	38.6% (127)
Resident physician	26.2% (86)
Years of professional experience	
≤5 years	52.6% (173)
6−15 years	35.9% (118)
≥16 years	11.5% (38)
Percentage of work hours worked in the emergency department	
Full time	34.7% (114)
Part time	23.7% (78)
Only on-call shifts	41.6% (137)
Hours of work	
≤40 h/week	46.3% (152)
≥41 h/week	53.7% (176)
Type of activity	
Strictly clinical	71.1% (234)
Mixed activity	28.9% (95)

Table 2 Percentage of professionals with and without burnout in the different groups under study. The percentage distribution of professionals meeting the criteria for burnout is given for each of the variables under study.

	Burnout	
	Percentage	*P*
Sex		
Male	8.7%	.514
Female	12.0%	
Age		
≤30 years	12.5%	.837
31-40 years	12%	
≥41 years	9.6%	
Professional category		
Nurse	10.7%	.216
Nursing assistant	14.8%	
Adjunct physician	7.1%	
Resident physician	15.1%	
Years of professional experience		
≤5 years	11.6%	.721
6-15 years	12.7%	
≥16 years	7.9%	
Percentage of work hours worked in the emergency department		
Full time	17.5%	.002
Part time	1.3%	
Only on-call shifts	12.4%	
Shift structure		
Regular shifts ± on-call shifts	10.5%	.471
Only on-call shifts	13.0%	
Hours of work		
≤40 h/week	12.5%	.631
≥41 h/week	10.8%	
Type of activity		
Strictly clinical	17.5%	.013
Mixed activity	8.4%	

Chi square and Fisher exact test.
Statistical significance defined as $P < .05$.

We designed a multicentre descriptive study that involved collection of data by means of a questionnaire. In September 2018, se emailed the heads of the PEDs of 21 Catalan hospitals requesting participation of the emergency department staff in the study. The study included physicians (adjunct physicians and residents in training) and nursing staff (nurses and nursing assistants).

Those respondents that consented to participate completed the questionnaire anonymously (through an online GoogleDocs® form). We collected the following information through the questionnaire:

Personal characteristics: sex, age, professional category.

Professional characteristics: years worked in emergency department, work schedule in the PED (full time, part time or only on-call shifts), hours worked each week, shift structure, type of activity (exclusively clinical versus mixed activity). We defined mixed activity as participation in other type of activity such as administration, research and/or teaching.

Answers to the Maslach Burnout Inventory adapted to the Spanish population[4]: the questionnaire comprises 22 items in 3 scales that address different dimensions of burnout, emotional exhaustion (9 items), depersonalization (5 items) and personal accomplishment (8 items). Based on the score obtained, each scale can be categorised in 3 levels (low, medium and high). We defined burnout in health care professionals as high emotional exhaustion, high depersonalization and low personal accomplishment. We defined absence of burnout as low emotional exhaustion, low depersonalization and high personal accomplishment.

We received 329 questionnaires from 18 hospitals. The median age of respondents was 33 years (interquartile range, 28–40). Table 1 summarises the personal and professional characteristics of respondents. Of all respondents, 71.1% worked exclusively in care delivery (34.6% in emergency care only, the rest in a combination of settings); 40.1% also engaged in some form of nonclinical work (teaching in 56.1%, research in 25.7% and administrative tasks in 18.2% of cases).

Thirty-eight participants met the criteria for burnout, corresponding to a prevalence of burnout syndrome of 11.6% (95% CI, 8.5–15.5). We found that 33.1% (109 participants) had a high level of emotional exhaustion, 6.4% (21 participants) a high level of depersonalization, and 27,4% (90 participants) a low level of personal accomplishment. On the other hand, 10.9% (36 participants) did not have a significant score in any of the 3 scales. Table 2 presents the distribution of burnout based on different variables under study.

The prevalence of burnout in the care staff of Catalonian PEDs included in the study was high: approximately 1 in 10 health care workers met the criteria for burnout and more than 2/3 had an abnormal result in at least one scale (most frequently a high level of emotional exhaustion). In the field of paediatrics, the prevalence of burnout is lower compared to adult care, approximately ranging from 35%

to 40% of paediatricians[3] and 25% of paediatric emergency physicians.[5] The low prevalence found in our study may be explained by different factors: on one hand, our sample was younger compared to other studies, and on the other we defined burnout as an altered score in all three scales (other authors considered an altered score in any scale sufficient to consider the syndrome to be present).[1,5,6]

The risk factors for developing burnout syndrome are working full time in the emergency department and having an exclusively clinical role. Protective factors described in the previous literature (that were not assessed in our study) were continuing education of health care professionals, work-life balance, teamwork and specific personality traits.[2,6]

Lastly, some authors have suggested that burnout should be perceived as a manifestation of a dysfunctional health care system, and that measures should be taken at the individual and collective level. Given the current professional trend of exclusive, specialised dedication to emergency care, protective strategies must be developed to prevent job burnout: strategies aimed at improving care pathways, reducing the burden of bureaucratic tasks, avoiding long work days and facilitating the wellbeing, work-life balance and personal development of emergency care staff.[2,3,5,6]

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COVID-19 respiratory failure: ECMO support for children and young adult patients☆

Insuficiencia respiratoria COVID-19: soporte con ECMO para niños y adultos jóvenes

To the Editor:

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) affects adults predominantly, with the greatest number of admissions to the intensive care unit (ICU) and highest mortality found in this age group.[1] Although coronavirus disease 2019 (COVID-19) in children has been described as being less severe with a shorter recovery time,[2] we present the case of a female patient aged 16 years, previously healthy and with no known contacts with COVID-19, that suffered severe pneumonia due to infection by SARS-CoV-2 requiring veno-venous extracorporeal membrane oxygenation (ECMO) and experienced a full recovery.

The patient presented to the emergency department of the regional hospital in her area with cough and fever of 6 days' duration. The chest radiograph evinced pneumonia (Fig. 1A), which prompted admission to the inpatient ward. At 48 h, the PCR test for detection of SARS-CoV-2 turned out positive, so prescriptions were made for ritonavir/Lopinavir (for up to 7 days), hydroxychloroquine (for up to 10 days), azithromycin (for up to 5 days) and interferon β-1b (for up to 7 days). On the same day, the condition of the patient worsened, as she developed tachycardia, tachypnoea, dyspnoea,

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