



Headache during the COVID- 19 first wave:

a survey on admissions' frequency, diagnosis and management in Emergency Department

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Background and objective

During the first COVID-19 lockdown in Italy, it was observed a reduction in Emergency Department (ED) attendances due to non-SARS COV 2 related acute/chronic conditions. The aim of this study was to analyze how the first Italian lockdown impacted on Emergency Department's attendances due to headache as the principal presenting symptom in the tertiary-care University Hospital of Trieste.

Methods

We retrospectively evaluated the frequency, features and management of ED attendances for headache during the COVID-19 lockdown from 8th March to 31st May 2020, comparing it with the pre-lockdown period (January-February 2020) and the first five months of 2019.

Results

A reduction in ED total attendances was observed in the first five months of 2020 compared to the same period in 2019 (21.574 and 30.364, respectively; -29%), in particular during lockdown period (n= 9409) with a decrease of 48% with respect to March-May 2019. During the first five months of 2020, ED accesses for headaches decreased by 49%, especially during the lockdown period, with an average of 6 accesses per week (0.66%), compared to 14 accesses pre-lockdown in 2020 (0.92%, p <0.05) and to 20 accesses per week during the control period in 2019 (1.20%, p< 0.001). During the COVID-19 lockdown, it was recorded a minor reduction in the ED access rate of female patients (p= 0.03), while no significant variation was detected in repeaters' prevalence, diagnostic assessment and acute treatment. (table 1). The ratio of Not Otherwise Specified, Secondary and Primary Headaches (48.4%, 30.6% and 21.0% respectively) remained unchanged during the COVID-19 lockdown, in comparison to the control periods.

Table 1. Emergency Department's attendances for headache: demographic data, diagnostic assessment and discharge dispositions

	January- February			March-April- May		
	2019	2020	P value	2019	2020	P value
Total accesses (accesses/week)	121 (0.99%) (15/week)	112 (0.92%) [‡] (14/week)	0.545	218 (1.20%) (20/week)	62 (0.66%) [‡] (6/week)	<0.001
Age (y)	51 (± 19)	47 (± 19)	0.065	51 (± 19)	46 (± 17)	0.053
Females n (%)	83 (69.0%)	71 (63.0%)	0.402	157 (72.0%)	36 (58.0%)	0.036
Repeaters	49 (40.5%)	28 (25%)	0.012	73 (33.5%)	17 (27.4%)	0.367
Neurology consultancy	76 (62.8%)	41 (36.6%)	<0.001	138 (63.3%)	28(45.2%)	0.010
Other specialist consultancy	26 (21.5%)	13 (11.6%) [‡]	0.044	40 (18.3%)	15 (24.2%) [‡]	0.307
Head CT scan	82 (67.8%)	63 (56.2%)	0.070	150 (68.8%)	40 (64.5%)	0.523
Lumbar puncture	2 (1.6%)	3 (2.6%)	0.589	7 (3.2%)	1 (1.6%)	0.505
Indication to refer to AHC	29 (23.9%)	23 (20.5%)	0.530	42 (19.3%)	6 (9.7%)	0.077
Hospitalizations	8 (6.6%)	5 (4.5%)	0.476	20 (9.2%)	3 (4.8%)	0.273

y: years. n: number. CT: computed tomography. AHC: acute headache center.

[‡]: statistical significance between January-February 2020 and March-April- May 2020

Conclusions

The COVID-19 pandemic impacted the number of ED attendances for headache but not their management and setting. Despite a reduction of accesses for headache due to the pandemic emergency, the distribution of headache subtypes and the rate of repeaters did not change. A strengthening of headache care telemedicine conducted by headache centers or general physicians could favor social distancing, improve the diagnosis and treatment of patients with primary/benign headache, and refer to the ED patients with suspected potentially dangerous secondary headaches, in order to reduce patients' flow to ED, including also the repeaters, in this epochal event as well in the future.