



INTRODUCTION

Under treatment of pain is frequently reported in children even in conditions associated with severe pain such as fractures. Recent literature supports adequate and early pain treatment because extreme and uncontrolled pain can lead to hyperalgesia. Since 2017, the treatment of pediatric orthopedic cases in the "Meir" Medical Center was gradually shifted from the orthopedic general emergency department (GED) to the pediatric emergency department (PED).

OBJECTIVE

To examine the differences in pain management between the orthopedic and pediatric emergency departments. Upper limb fractures were chosen as a representing case.

METHOD

A retrospective cohort study included children aged 0-18 years that suffered from an upper limb fracture and were admitted to the emergency department in the years 2016 and 2018.

RESULTS

A total of 2520 children suffered from an upper limb fracture and were treated at the Meir Medical Center during the study period. 959 of these children were treated during 2016 in the GED and 1561 were treated in the PED during 2018. The group characteristics were similar. In the PED compared to GED group more children received analgesic treatment (47.85% versus 30.4%, $p < .001$), more opiates were given (13.9% versus 5.3%, $p < .001$) and the analgesic treatment was more adequate to pain severity. Additionally, sedation was performed more frequently in the PED (21.6% versus 9.5%, $p < .001$), especially for dislocated fractures (81.5% versus 31.4%, $p < .001$). Complications: Length of stay, surgery, hospitalization and recurrent referral rates were similar between the two groups.

Table 1: Study group characteristics

	2016 patients - treated in GED (n=959)	2018 patients - treated in PED (n=1561)	P value
Mean age in years (SD)	9.78(±3.77)	9.57(±4.217)	0.143
Sex (% male)	68.3	64.8	0.199
Ethnic origin			
Jewish (%)	68.2	74	0.005
Arabic (%)	31.8	26	

Table 2. Pain severity score groups and adequacy of pain treatment

	GED group	PED group	P value
Low PSS (VAS 0-3)	430/448 (96.0%)	475/494 (96.2%)	.892
Moderate PSS (VAS 4-6)	67/221 (30.3%)	245/506 (48.4%)	.001
Severe PSS (VAS 7-10)	29/270 (10.7%)	154/378 (40.7%)	.001

*Displayed are the number of adequate pain treatment / total children (%)

CONCLUSIONS

The transfer of orthopedic pediatric cases to the pediatric emergency department showed a notable improvement in pain management, anxiety reduction and sedation rate without an increase in complications or ED length of stay.