WHO SURVIVES AN OUT-OF-HOSPITAL CARDIORESPIRATORY ARREST IN MEXICO? A 2-YEAR STUDY OF THE REGULATORY CENTER FOR MEDICAL EMERGENCIES IN QUERÉTARO, MÉXICO

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01 Background

Out-of-hospital cardiac arrest (OHCA) is a public health problem worldwide. In México, there are between 150,000-250,000 cases of OHCA per year.

02 Objective

To describe the characteristics of non-traumatic OHCA care at the Regulatory Center for Medical Services (CRUM) and factors associated with survival to the emergency room in Querétaro, México.

03 Methods

Observational, retrospective study using Utstein style recommendatios of 2022-2023 data from adults patients who had non-traumatic OHCA. Statistical analysis was performed using Stata 14.0. Descriptive statistics include frequencies for categorical variables and measures of central tendency for quantitative variables as well as a bivariate associations using chi-square test and t-student for quantitative variables.

04 Results

Survival was more likely among younger patients without comorbidities who had a witnessed arrest, presented with a shockable rhythm, had continued chest compressions by CRUM paramedics, and received epinephrine. More than 74% of patients received bystander CPR, although this result was not statistically significant.

Response Time
17.79 min.

Doses Adrenaline
3.47

CPR Bystander
74.53%

Public AED Use
0.0%

Table 1. Survival to the emergency room with CPR after cardiorespiratory arrest of non-traumatic origin and the characteristics of the events. Data record for the years 2022-2023 (n=242)

Variable	n	Percent (%)	Survival		X^2	*p*
			Not	Yes		
Gender						
Female	84	34.71	77	7	0.554	0.457
Male	158	65.29	140	18		
Age						
≥60 years	129	53.52	121	8	5.1963	0.023
<60 years	112	46.47	95	17		
Comorbidities						
None	54	25.59	43	11	7.1765	0.028
1	74	35.07	67	7		
≥2	83	39.34	78	5		
Location of Arrest						
Residential setting	141	66.2	133	8	26.6269	0.000
Public setting	39	18.31	36	3		
Other	33	15.49	21	12		
Witnessed Arrest						
Unwitnessed	37	20.33	35	2	22.242	0.000
Bystander	132	72.53	118	14		
EMS/9-1-1 responder	13	7.14	6	7		
CPR Bystander						
Yes	158	74.53	138	20	2.0991	0.147
No	54	25.47	51	3		
Continue CPR EMS/9-1-1 Responder						
Yes	184	76.34	159	25	8.6409	0.003
No	57	23.65	57	0		
Airway Management						
BVM	34	23.29	32	2	16.0361	0.001
Supraglottic device	6	4.11	6	0		
EI	59	40.41	44	15		
None	47	32.19	46	1		
Initial Rhythm						
Asystole	135	75.84	125	10	13.5303	0.004
PEA	19	10.67	13	6		
VF	20	11.24	15	5		
PVT	4	2.25	4	0		
Medications						
Adrenaline	98	48.28	82	16	15.6146	0.000
None	105	51.72	104	1		

EMS: Emergency Medical Services; **CPR**: Cardiopulmonary Resuscitation; **BVM**: Bag-Valve-Mask ventilation; **EI**: Endotracheal Intubation; **PEA**: Pulseless Electrical Activity; **VF**: Ventricular Fibrillation; **PVT**: Pulseless Ventricular Tachycardia; **X^2**: Chi-square test; **PR**: Survival Probability Ratio. Shockable rhythm Non-shockable rhythm

05 Conclusions

Survival may be improved with interventions such as increasing public acces defibrillation, bystander CPR and improving EMS time response.

OHCA survival rates in Queretaro are comparable to those reported by European and US health systems.

Survival (n:242)

- Died in Field 217
- Admitted to Hospital. 22
- Arrived Hospital in CPR maneuvers 3