

**Background:** The chain of survival has been demonstrated to improve the chances of survival for victims of cardiac arrest. The chain of survival provides a standard protocol for resuscitation and treatment and will improve the chances of survival and recovery for victims. The chain of survival for adult OHCA are including those links: early recognition, early cardiopulmonary resuscitation (CPR), early defibrillation, emergency medical services (EMS), advanced life support and post resuscitation care. The objective of this study was to assess the survival outcome of OHCA patients and determine the factors associated with improved **survival in terms of survival**.

		Location		
		Frequency	Percent	Valid Percent
Valid	PREHOSPITAL	68	19.9	19.9
	ED	274	80.1	80.1
	Total	342	100.0	100.0

Table 1. CA location distribution

**Patients & Methods :**

We conducted a retrospective observational study during 2 years (2017-2018), including all the cases of cardiac arrest (430 cases) presented to “Sf. Spiridon” Clinical Emergency County Hospital from Iasi, North-East of Romania.

**Data collection:**

We analyzed the cases of cardiac arrest in adults presented to our services from pre-hospital and hospital (our ED include a pre-hospital team who responds to code red cases in our area). We followed the location, age, witnessed and/or assisted cardiac arrest, time between first call and start of ALS, first rhythm, etiology, ROSC, surviving in first 24 hours. We used for the statistical analysis IBM SPSS v25.

**Results & discussion :**

From the total of 430 cases, 64,7% were males. The mean age of the patients was 66,96 +/- 14,83 years, and in OHCA mean age was 65,95 +/- 16,15 years. The percentage of OHCA was 36,3% vs 63,7% IHCA. The initial rhythm in study population was asistola in 54,4% (48,9% in OHCA), PEA in 35,3% (43,2% in OHCA), VF in 6,5% (5,7% in OHCA) and VT in 3,7% (2,3% in OHCA). The mean time for initiating CPR in OHCA settings was 7,95 minutes and vary from 1 to 58 minutes. ROSC during first CPR attempt was in OHCA 36,5% and 38,6% IHCA, and survival rate at 24 hours was 32,2% in IHCA and 25,9% in OHCA). The most frequent causes were medical causes (43,7%), followed by the cardiac etiology (31,2%). 86,4% of OHCA were witnessed by lay personnel, and in 15,8% of those cases nobody performs CPR until medical team arrived. We found an indirect correlation between first rhythm of OHCA and ROSC (p= -0,272) and a direct correlation between first rhythm and survival at 24h (p= 0,2016).

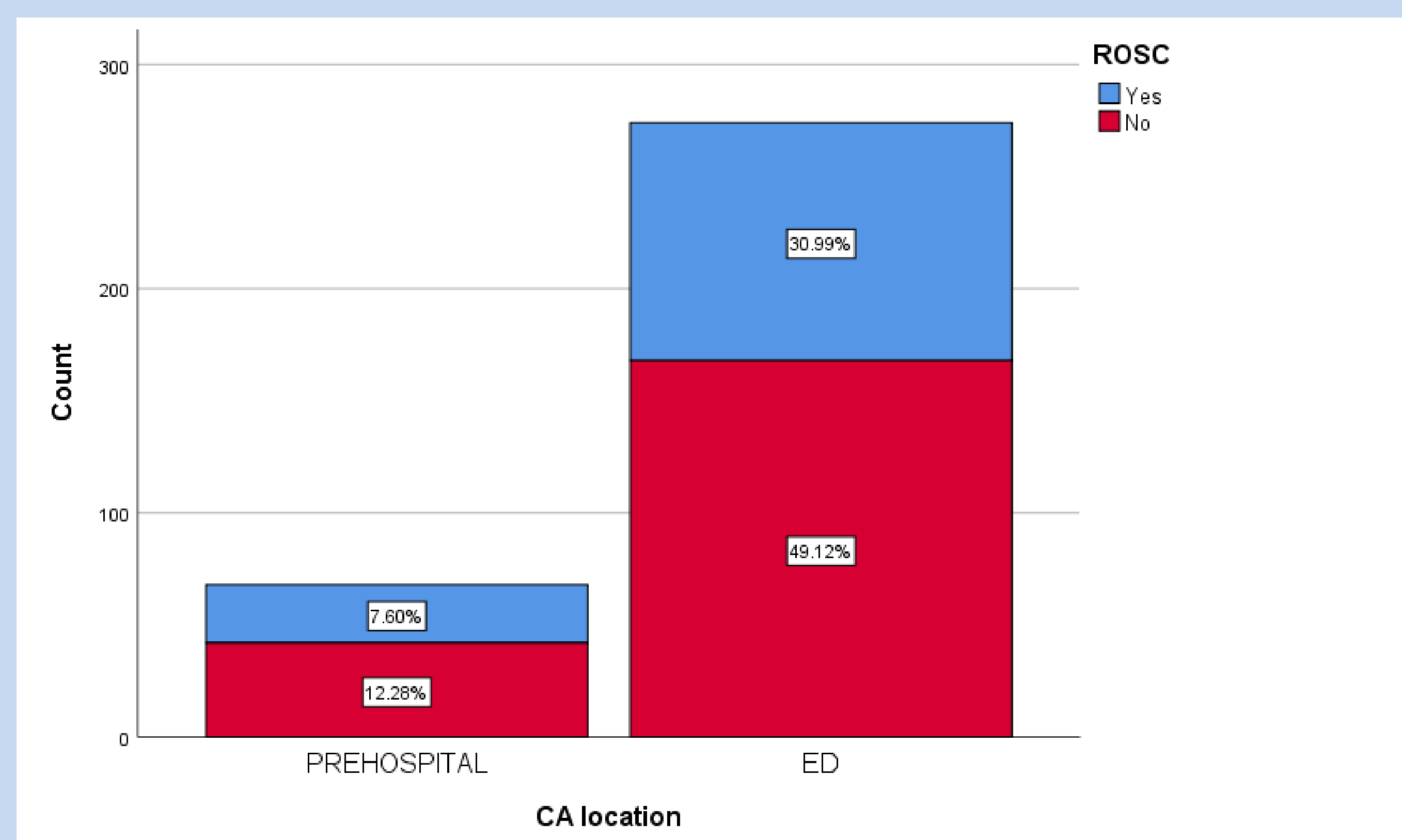


Figure 1: The distribution of the ROSC according to location of CA

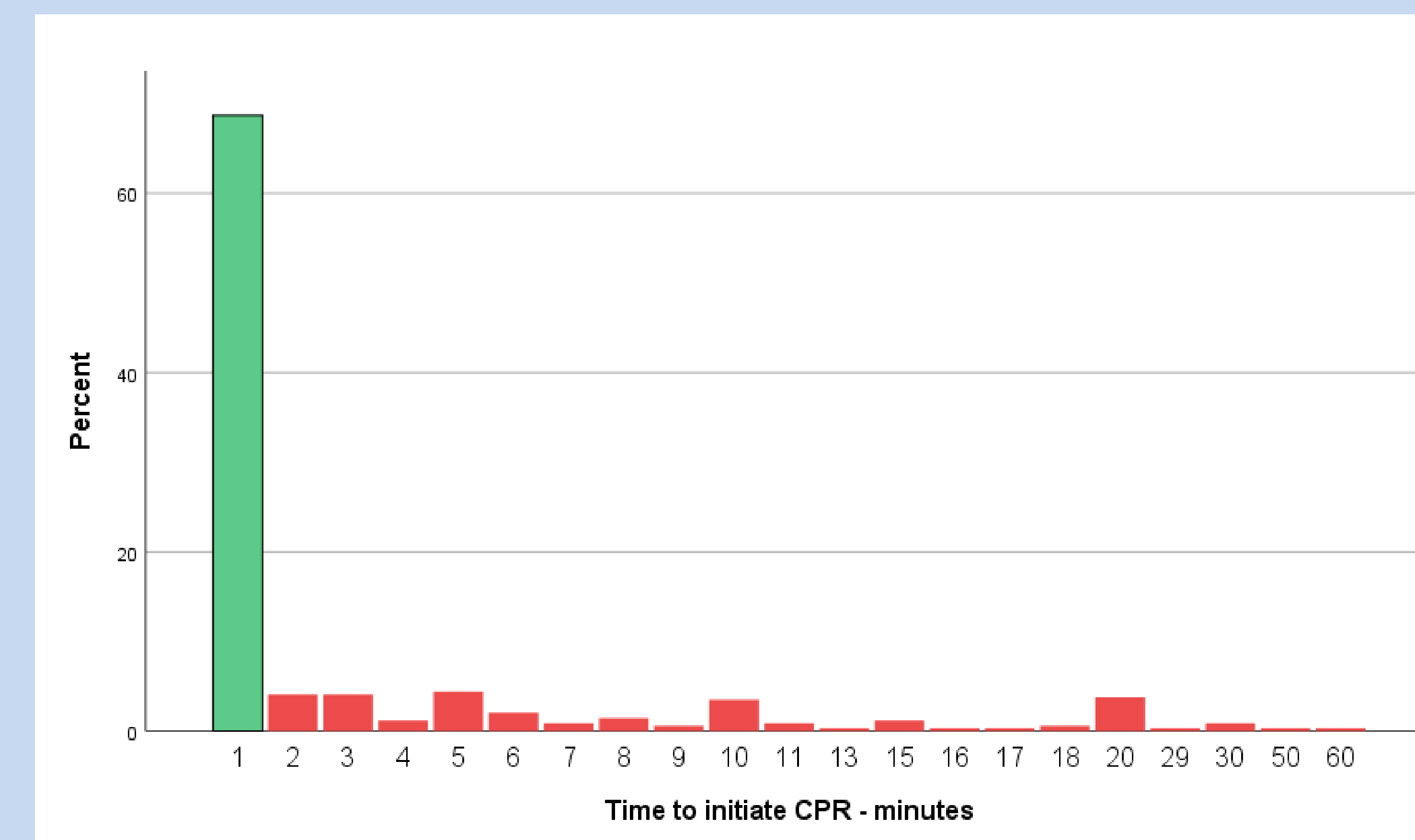


Figure 2 : Time to initiate CPR

**Conclusion & perspectives :**

We found after the analysis of our data that the ROSC rate was close (36,5 OHCA vs 38,6 IHCA) in both settings, but we considered that we found a big difference between survival rate, 32,2% in IHCA vs 25,9% in OHCA. Even if we didn't found any statistically correlation between beginning of CPR maneuvers and survival rate, we found a correlation between first rhythm of CA and surviving rate at 24h, the surviving being decreased in asistola compared with the rest of rhythms. We found that the weak link of chain of survival in this setting (OHCA) is early CPR performed by witnesses. It is critical to increase bystander/community recognition of OHCA and bystander CPR and AED use.