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Research Article

Survey on Done cardio-Pulmonary resurrection Consequences in hospital's Emergency unit of Kermanshah 1394

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ABSTRACT

Background and purpose: Cardio respiratory arrest is the most serious problem in Medical Emergency unit. By considering the high rate of unsuccessful resurrection at some medical center we decided to Survey on Done cardio-Pulmonary resurrection Consequences in hospital's Emergency unit of Kermanshah 1394.

Materials and methods: For this descriptive analytical study, 335 patients have been chosen from Kermanshah hospitals. In order to gather data a questionnaire consist of demographic info and the other major variables has been used and then interred in SPSS 18 program; after that descriptive analysis with the Frequency and The relative Frequency and Contingency tables and inferential analysis has been done through multi variable logistic Regression.

Finding: From 335 resurrected patients, 58.7% were men, 84.3% were married and 58.2% were above 55 years old. Among successful and failed CPR based on gender, marriage status and Shift work and presumptive diagnosis, there was no meaningful difference. Failed percentage of patients who were brought by ambulance was lower than the patients who were carried by other vehicles. Totally, 60.1% had successful resurrection, 39.1% were failed and in 0.9% the result was unknown.

Discussion and conclusions: This study has shown the rate of success in CPR patients in Kermanshah province hospitals' emergency units is almost similar rather the other places in world, also it has been shown though time of resurrection team's shift changing is sensitive but it has no meaningful relationship to CPR result.

Keywords: CPR, Resurrection team, nurses

INTRODUCTION

Cardiorespiratory arrest is the most serious problem in Medical Emergency unit and if CPR doesn't start in a few minutes cerebral hypoxia duo to cardiopulmonary interruption in 3 to 5 minutes ended in death or constant cerebral damage. Considering the fact it's about several years passing from start of CPR operation by resurrection team, but unfortunately their performance in hospitals is weak and disturbing. Researches have shown in average only 10 to 15 percent of people who went in CPR through resurrection team, get alive that was different in various countries [(1)]. CPR has an important role in preventing death specially the out of hospital deaths (2). Ideal result of a resurrecting operation is 100% returning of patient to life and also CPR not to be needed for 20 minutes later, but there are several factors interfering in this case. By considering the high rate of failed resurrections in some medical centers, we decided to Survey on

Done cardio-Pulmonary resurrection Consequences in hospital's Emergency unit of Kermanshah 1394.

MATERIALS AND METHODS

For this descriptive analytical study, 335 patients have been chosen from Emam Reza, Taleqani, Sar Pol Zahab Martyrs, and Moaven of Sahneh who has the highest rate of failed resurrection. For gathering data a self-made questionnaire consist of demographic info and the other major variables has been used and then interred in SPSS 18 program; after that descriptive analysis with the Frequency and The relative Frequency and Contingency tables and inferential analysis has been done through multi variable logistic Regression.

FINDING:

Tab 1 Ration of successful and failed CPR based on gender and age.

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Per.	Num.	Per.	
Gender	Female	82	24.6	56	16.8	138	41.3	0.820
	Male	120	35.9	76	22.8	196	58.7	
	Total	202	60.5	132	39.5	334	100	
Age	>12	6	1.8	3	0.9	9	2.7	0.007
	12-25	13	3.9	10	3	2	7	
	25-35	12	3.6	9	2.7	21	6.4	
	35-55	62	18.8	23	7	85	25.8	
	55-75	87	26.4	52	15.8	139	42.1	
	75<	21	6.4	32	9.7	53	16.1	
	جمع	201	60.9	129	39.1	330	100	

From 335 resurrected patients, 58.7% were men, 84.3% were married and 58.2% were above 55 years old.

Tab 2 number of successful and failed CPR cases based on educational level and marriage status.

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Per.	Num.	Per.	
educational level	illiterate	43	13	48	14.5	91	27.4	0.002
	High school diploma	80	24.1	54	16.3	134	40.4	
	diploma	67	20.2	23	6.9	90	27.1	
	M.S. and more	12	3.6	5	1.5	17	5.1	
	Total	202	60.8	130	39.2	332	100	
marriage status	Bachelor	36	10.8	16	4.8	52	15.7	0.177
	Married	166	50	114	34.3	280	84.3	
	Total	202	60.8	130	39.2	332	100	

In tab 2 no meaningful difference between successful and failed CPR number among male and female was found. (X^2 = 740, p-value= 0/820)

In tab 2, 5% meaningful difference between successful and failed CPR number about educational level. (X^2 =14/794, p-value= 0/002)

But 1 no meaningful difference between successful and failed CPR number from marriage status. (p-value= 0/177, X^2 = 1/821)

Tab le3 Number of successful and failed CPR cases based on way of carrying patient to hospital.

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.		Num.	Per.	
way of carrying patient to hospital was found	Ambulance	87	26.2	38	11.4	125	37.7	0.011
	Other ways	115	34.6	92	27.7	207	62.3	
	Total	202	60.8	130	39.2	332	100	

In tab 3 no meaningful difference between successful and failed CPR number and way of carrying patient to hospital was found. (X^2 = 6/453, p-value = 0/011)

Failed percentage of patients who were brought by ambulance was lower than the patients who were carried by other vehicles.

Table 4 Number of successful and failed CPR cases based on spent time for catching hospital.

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Per.	Num.	Per.	
Spent time for catching hospital.	Less than 30 minutes	101	77.7	80	86	181	81.2	0.117
	30-60	29	22.3	13	14	42	18.8	
	Total	130	100	93	100	223	100	

In tab 3 no meaningful difference between successful and failed CPR number and spent time for catching (X^2 = 2/460 hospital was found. , p-value = 0/117)

In all the hospitals the resurrecting operation was started immediately almost after code 99.

Tab 5 Number of successful and failed CPR cases based on CPR time period.

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Num.	Per.	Num.	
CPR time period	Less than 20 min	50	24.9	14	10.7	64	19.3	0.000
	20-30	23	11.4	16	12.2	39	11.7	
	30-45	88	43.8	48	36.6	136	41	
	45-60	3	15.4	32	24.4	63	19	
	More than 60	9	4.5	21	16	30	9	
	Total	201	100	131	100	332	100	

In tab 5 no meaningful difference between successful and failed CPR number and CPR time period was found. (X^2 = 24/413 , p-value = 0/000)

Tab 6 Number of successful and failed CPR cases based on work shifts

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Num.	Per.	Num.	
work shifts	Morning	79	39.3	51	38.9	130	39.2	0.546
	Evening	59	29.4	45	34.4	104	31.3	
	Night	63	31.3	35	26.7	98	29.5	
	Total	201	100	131	100	332	100	

In tab 6 no meaningful difference between successful and failed CPR number and work shifts was found. $X^2 = 1/210$,p-value = 0/546)

Tab 7 Number of successful and failed CPR cases based on a presumptive diagnosis of CPR requirement

Variables		Successful		Failed		Total		p-value
		Num.	Per.	Num.	Num.	Per.	Num.	
Disease diagnosis	Trauma	35	17.4	21	16.3	56	17	0.079
	Cardiovascular events	87	43.3	62	48.1	149	45.2	
	Internal diseases	24	11.9	5	3.9	29	8.8	
	Others	55	27.4	41	31.8	96	29.1	
	Total	201	100	129	100	330	100	

In tab 7 no meaningful difference between successful and failed CPR number and a presumptive diagnosis (of CPR requirement was found. $X^2 = 6/799$, p-value = 0/079)

Totally from 338 patients, 60.1% had successful resurrection, 39.1% were failed and in 0.9% the result was unknown. In 175 cases (51.8%) the emergency unit doctor was absent but in 334 cases the doctor was there in resurrection time. In 66 cases of 337, resurrection team members weren't trained and experienced. 65 cases were about Taleqani Hospital. From variables of no utilization of planned manpower in resurrection team, code 99 team members' awareness of their duties, effective communication skills between team members, perfection of resurrection equipment in emergency unit, acquaintance of resurrection team members with resurrection equip and health of resurrection equip in emergency unit; there were no problem.

Tab 8 Number of successful and failed CPR cases based on hospital

Variables	Successful		Failed		Total		p-value
	Num.	Per.	Num.	Num.	Per.	Num.	
Kermanshah Emam Reza	142	67.6	68	32.4	210	100	0.001
Sar Pol Zahab Martyrs	16	35.6	29	64.41	45	100	
Moaven of Sahneh	4	44.4	5	55.6	92	100	
Kermanshah Taleqani	41	57.7	30	42.3	712	100	
total	132	39.4	203	60.6	335	100	

In tab 8there is a meaningful difference between successful and failed CPR number based on hospital. Most of failed resurrection percentages were respectively in Sar Pol Zahab Martyrs, Moaven of Sahneh, Kermanshah Taleqani and Kermanshah Emam Reza. ($X^2 = 17/380$, p-value = 0/001)

For predicting of demographic variables effects on patients CPR success rate, the way of multi-variable logistic regression was used. Factors like age, gender, education level, marriage status interred the model simultaneously that A cox were obtained as much as -2logl = 419/285 & R^2=0/047. For befitting the model we used Hosmer and Leme show exam that Nichel efficient was obtain as R^2 = 0/064 and X^2= 3/925 with p-value = 0864. So assuming zero for model credibility on data was confirmed.

Tab 9 Interred variables in of multi-variable logistic regression

Variables	β coefficient	S.E	Wald statistics	p-value	OR=Exp$_\beta$
Age	-0/009	0/009	1/119	0/290	0/991
Gender	0/091	0/242	0/141	0/707	1/095
Education level	0/445	0/162	7/525	0/006	1/560
Marriage status	-0/192	0/412	0/218	0/641	0/825
Constant value	0/483	0/624	0/600	0/439	1/466

Variables aren't able to predicting dependent variables (CPR results)

Determining coefficient cox and Nel and Nichel Kirk are Determining coefficient Approximations in Linear regression which is used in logistic regression. 0.047% and 0.064% of changes determines resurrection result variable which are too small. Tab 9 has shown that age, gender, marriage status in predicting of resurrection success ratio has no meaningful role. (p-value = 0/290 , 0/707 , 0/641), But whatever education level has effective influence on success rate predicting the resurrection success rate will be higher. (β = 0/445 p-value = 0/006 OR= 1/560). Now we take gender factor out of model because it shows weaker meaning, again just education factor is meaningful. Then we take the marriage status factor out of model it happens the same. When education level inter the model lonely it will become meaningful that by taking all factors (except education level), it stays still meaningful. (P-value = 0/000). Emam Reza Hospital has the higher rate of successful resurrection rather the others so that 67.6% of their resurrections were succeed.

DISCUSSION AND CONCLUSIONS

Major purpose of this study was to determine done cardio-Pulmonary resurrection Consequences in hospital's Emergency unit of Kermanshah 1394. In this study 335 patient were resurrected, that 58.7% were men, 84.3% were married and 58.2% were above 55 years old. From this number of resurrected patients, about 61% had successful resurrection; so that was almost higher rate rather than Ali Akbar Jaafarian and *et al* (1379) which was for determining CPR success rate they did a descriptive Sectional study on 150 patients who needed this measures. Studying society was patients who CPR operation was did on them at emergency time and then they have been Fathomable after resurrection in hospital. In this survey the primary success rate was 29.3% and the final success was 10 %.[1] in this study, patients average age was 56.30±19.48 and 37.7% patients had been carried to hospital by ambulance that 45.2% were cardiovascular case. Between CPR successful and failed cases rate based on presumptive diagnosis there was a meaningful difference. Ali Setayeshi and *et al* (1383) did a survey about Cardiopulmonary (CPR) and cerebral resuscitation on 195 patients and they concluded that the average age of studying people was 59.43±1.4. In 14.9% of Cardiac arrest no one was there. 59.4% of patients were carried to hospital by ambulance for 53.3% of patients no basic supportive measurement was done. There was Endotracheal Intubation on 13.3% of patients before getting to hospital. The checked primary rhythm for patients at emergency unit of 73.3% cases was Asystole. Cardiovascular cause with frequency of 42.1% is in first place of Cardiac arrest reasons. Cardiac arrest causes in different age groups had a meaningful difference (P=0.000). 59.9% of CPR cases succeed. Success rate in different age groups and between genders

has no meaningful statistical meaningful difference. Most of failed CPR cases were where the reason was CO intoxication and hanging. Cardiac arrest reason and operation result were related to patients final condition. The major factor which was effective on patients final condition was cardiac arrest cause and primary cardiac rhythm didn't influence on patients prognosis (3). in current study in 66 case among 337 resurrection cases that resurrecting team members weren't educated and experienced, 65 one were connected to Taleqani hospital. From variables of no utilization of planned manpower in resurrection team, code 99 team members' awareness of their duties, effective communication skills between team members, perfection of resurrection equipment in emergency unit, acquaintance of resurrection team members with resurrection equip and health of resurrection equip in emergency unit; there were no problem. Ebrahim Nasiri and *et al* (1391) in a cross study made a hundred students to do CPR in one of standard techniques after passing CPR course based on basic CPR instruction or on body for two minutes; which incorrectly External heart massage in standard way was 31 and on the body was 24%(4). Poormirza and *et al* did a descriptive analytical sectional study about checking awareness level of Kermanshah nurses from last CPR Instruction and they figured out that this level consists of: 20.2% Excellent, 65.4% good, 14% medium and 0.3% weak. Awareness level was higher in nurses who had passed CPR courses or witnessed that. The higher awareness level was about principle of External chest massage (5). Our studies result shows that between failed and successful CPR cases based on work shift there is no meaningful difference. In a descriptive sectional study between 1391-90 Seyed Hussein Montazer and *et al* (1393) take all patients who visited emergency of Sari Emam Khomeini Hospital and needed resurrection due to cardiopulmonary arrest. Connection among patients entrance time, kind of resurrection team shift, time of shift changing and underlying diseases upon resurrection result was analyzed. From 307 patients who underwent CPR, 78 cases were successful at first, but finally 20.5% of patients leave the hospital alive. Most common disease that requires CPR were internal diseases and cancers and best results was for patients with intoxication. Also most of CPR operation number happened at night shift, but between resurrection team type and time of shift changing and CPR result, there's no meaning full relationship(6).

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