

Cardiopulmonary Resuscitation Awareness Among Jazan University Students

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Abstract—Objective: To assess of the knowledge and attitudes towards cardiopulmonary resuscitation (CPR) among the students of Jazan university. Methods: The study design performed as a cross-sectional survey among male and female Jazan University Students. The study consumed about 10 days to be done. The criteria in which student selected include young age and more suspected to be in situations where CPR is required. Strata and Clusters sampling of 500 students with a confidence interval of 95% ,accuracy of 5% and prevalence of 50% (because of no prior studies conducted in Jazan region) involved in the study.

Results:Resultsconfirmedthatthereisalackofknowledgeandlowlevelofawarenessamongstudentswhere48.3%onlyofstudentshaveaprevious knowledgeaboutCPRandthebiggestpercentageofthelackwasfallingwithinthemalestudents,andthosewithpriorknowledgewhobelievethattheir knowledge is sufficient is 12.2% only of the total students. Most students cannot do the steps of CPR correctly or what to do in emergency situations whereignoranceisthemainreasonforthatbypercentageof64.4%.

Conclusion: We provided notes and suggestions to the responsible parties in the headquarters of the education or health facilities about the importance of providing courses and publishing brochures to members of the community generally and university student specifically.

1 INTRODUCTION

What is CPR? Cardiopulmonary Resuscitation (CPR) is a life-saving technique used in emergencies where the patient stops breathing, or the heart of the patient stops beating. (e.g. Heart Attack, drowning). It is a series of breathing methods and chest compression to establish a sup-

ply of oxygenated blood flow to the brain and other vital organs of the patient until proper heart rhythm is established by a specialized medical treatment. In just a few minutes of oxygen deprivation in the brain, irreversible brain damage will occur. The patient's death will occur after 10 minutes.(1) [1] According to Ministry of Health in Saudi Arabia, deaths caused by circulatory system diseases are the second leading cause of death during the year 2012. A total of 3,374 males and 2,560 females died from circulatory diseases.(2) [2] Most of deaths from circulatory system diseases come in the form of unexpected cardiac arrest (Sudden cardiac death, SCD). Also, SCD can come from non-cardiac causes like trauma, blood loss, overdose, pulmonary embolism, etc.(3) [3] A CPR trained personal is needed to provide circulatory support until spe-

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specialized doctors establish a regular heart rhythm for the patient. This adds importance to the awareness of students about CPR. Since about 80% of all cardiac arrests occur at home, (4) [4] students are likely to face certain cases out of the hospital. Studies like ours are rare in Saudi Arabia so it is important to test the levels of awareness the students have in the time-being. within four minutes

2 RATIONALE

Our hypothesis is that there is a lack of knowledge on CPR among Jazan University Students which will create a problem if students are met with a circumstance where a relative or an acquaintance needed CPR. Conclusion and Recommendations section of this research provides notes and suggestions to the responsible parties in the headquarters of the education or health facilities about the importance of providing courses for members of the community generally and university students specifically.

3 RESEARCH OBJECTIVES

To assess the knowledge and attitudes towards cardiopulmonary resuscitation (CPR) among the students of Jazan university

Specific objectives :

- 1- To determine the level of knowledge about CPR among Jazan university's students.
- 2- To determine the factors that associated with CPR knowledge.
- 3- To determine the students attitudes toward CPR learning.

4 LITERATURE REVIEW

"Cardiopulmonary arrest is the sudden cessation of spontaneous and effective ventilation and systemic perfusion. In the past, whenever the heart ceases functioning, a patient would consider as dead. But now it is known that certain procedures when carried out

would make the patient to survive” (5). [5] CPR experts have been guided by standard rules since the commence-

ment of formal CPR rules more than 40 years back (6) [6].

Amid the previous 50 years the basics of a head of schedule distinguishment and initiation, early CPR, early defibrillation, and early get to crisis therapeutic have spared many lives. These restored lives show the essentialness of revival examination and clinical interpretation and are reasons to praise this 50th celebration of CPR (7) [7].

There is a striking difference in survival results from heart failure crosswise over frameworks of forethought, with a few frameworks reporting five-fold higher survival rates than others. “Although technology, such as that in-

corporated in automated external defibrillators (AEDs), has contributed to increased survival from cardiac arrest, no initial intervention can be delivered to the victim of cardiac arrest unless bystanders are ready, willing, and able to act. Moreover, to be successful, the actions of bystanders and other care providers must occur within a system that coordinates and integrates each facet of care into a comprehensive whole, focusing on survival to discharge from the hospital” (7) [7]. This official thorough survey highlights mindfulness among therapeutic understudies about the real changes and most provocative proposals in the 2010 AHA Guidelines for CPR and ECC (7). [7] “High-quality CPR is the cornerstone of a system of care that can optimize outcomes beyond return of spontaneous circulation

(ROSC). Return to a prior quality of life and functional state of health is the ultimate goal of a resuscitation system of care” (7). [7] In Saudi Arabia There was a research in King Saud university, and the study sample of 2250 students, 31% did not have prior CPR information. Of those with previous knowledge,

85% feel that it is inadequate. The most common sources of information were television and movies. 12.7% of in-

dividuals encountered a situation that required the use of CPR. However, only 14% of them performed it. This was mostly due to lack of knowledge (48.2%). 88% percent of students would like to learn how to perform CPR. Out of all

King Saud University students, 45% believe that CPR training should be a graduation requirement.(8) [8] also there is a study among Secondary School Students in Riyadh , study sample of 580 males and females secondary school students, 56% did not have proper CPR information. The proper CPR information was higher among females than males: it was 87% and 61% for females and males students respectively. About 67% of all students would like to know more about CPR.(9)[9]

5 RESEARCH METHODS

Study population :

The participants were male and female students from different colleges in Jazan university.

Study area: the study was performed in the Jazan university in Jazan City.

Jazan city in the far south-west of the Kingdom of Saudi Arabia in particular the western region is located on the Red Sea coast.

Study Design: The study design was performed as a cross-sectional survey among male and female Jazan University Students. The study consumed about 10 days. Sampling : Sample size : the sample size obtained from the equation :

$$n = \frac{Nz_{(\alpha)}^2 P(1-P)}{(N-1)d^2 + P(1-P)z_{(\alpha)}^2}$$

where , N : Population size , P : Prevalence on past research , d : accuracy , z : probability And the sample size yields : 500 sample. With a confidence interval of 95% and accuracy of 5% were involved in the study, Prevalence in past research findings is 50% Sampling technique : multi-stage stratified cluster random sampling spreading Jazan University into subgroups by specialties, and random sampling in each subgroups according to the proportion of the total size. As shown in the Table 1 , Table 2 and Table 3.

Data Collection : Tools : Pretested self-administered Questionnaire were randomly distributed among the colleges. The questionnaire contained 20 questions distributed into 3 pages. Ethical Consideration : informed consent was

obtained from the participants before filling the questionnaire . Informed consent paper show to the participants the purpose of the study, the number of questions and pages and the time consumed in filling the questionnaire, procedures involves in the research. Data Analysis : By SPSS program version 22.

6 RESULTS

1- 48.2% of the total number of students have prior knowledge on CPR as shown in Table 4.

2- The knowledge levels in association to the gender and specialty is shown Table 5.

3- Among those 48.2% who have a previous knowledge about CPR only 25.3% see their amount of knowledge is sufficient (12.2% of the total number of students). 78.7% of students who see their amount of knowledge is sufficient answered wrong on the CPR steps as shown in Table 6.

4- The questionnaire contained simple questions that test knowledge on CPR. e.g. What is the first thing to do if you encounter a person having a heart attack? 64% answered wrong. Also, what is the number of emergency? 48.6% of the students got it wrong. The previous indicated a shocking ignorance rate among the students in Jazan University, even in matters as emergency number which is taught at the elementary school level.

5- The main single sources of knowledge is (Movies 6.6% , TV and Internet 6.2% , University 5.4% , Reading 3.2% , School 2.8%, Friends & relatives 1.8%, Radio 0.4%, others sources 1.6% and those who chose multiple sources from these is about 21.4%).

6- The proportion of students who had encountered situations that needed CPR is 21.6% of the students and among those, who performed CPR is 17.6% (3.8% of the total number) and who didn't is 82.4% (17.8% of the total number). 7- The main reason for not performing CPR of those who encountered circumstances which needed CPR, ignorance 64.8%, confusion 20.5%, fear of infections 8.3% and for other causes 6.4%.

TABLE 1
Male Samples

College	Number of Students	Number of Samples
Dentistry	186	20
Applied Medical Sciences	1140	40
Computer Sciences	2316	50
Sciences	2755	50
Business Administration	2794	50
Education	1110	40

TABLE 2
Female Samples

College	Number of Students	Number of Samples
Dentistry	188	20
Applied Medical Sciences	1184	40
Computer Sciences	1051	50
Sciences	2704	50
Business Administration	2727	50
Education	1668	40

TABLE 3
Total

Male Students	24100	Used in sample	250
Female Students	26268	Used in sample	250
Total	50368	Total	500

TABLE 4

Prior Knowledge on CPR			
percent	Frequency		
48.2%	241	They Known about CPR	
51.8%	259	Did not know about CPR	

TABLE 5

Total awareness	Female awareness level	Male awareness level	College
67.5%	70%	65%	Dentistry
66.25%	87.5%	45%	Applied medical colleges
39%	34%	44%	Sciences
36%	32%	40%	Computer Sciences
45%	48%	42%	Business
56.25%	67.5%	45%	Education

TABLE 6

Students with sufficient knowledge who answered yes on sufficiency of knowledge question	CPR steps		Total
	Right	Wrong	
13	48	61	

8- As shown in Table 7 about 81.6% of students have positive attitudes towards CPR learning.

9- The proportion of students who think learning about CPR must be one of the graduation requirements is 35.6%, a graduation requirement for certain specialties is 21.6%, and who think it should be selective is 39.6%, and those who wish it never be taught 3.2% .

10- As shown in Table 8 about 37% see that providing more media exposure is the more effective way of improvement of CPR awareness.

7 DISCUSSION

The study was performed among students from 20 - 26 years old of almost all Saudi (99.9%) college students. Contained students from 6 colleges of both female and male with equal number (250 for each gender).

48.2% of Participant had prior knowledge about CPR. compared to a similar study from King Saud University, 69% of the 2250 sample had prior knowledge which indicate a lack of knowledge in our students compared to KSU's.(8)[8]

In regard to sources of knowledge, Movies and TV were

the most picked sources as in KSU study.(8) [8] Although, lots of students picked multiple sources, put the previous were predominant.

In the proportion of students with prior knowledge, female students prevailed with 62.8% to 37.2% males which is similar to a study of the same scope in Riyadh.(9)[9]

25.3% of students with prior knowledge (12.2% from total) think their knowledge is sufficient compared to 15% from total KSU sample.(8) [8] This indicates a large percentage of Jazan university students lack knowledge or don't think that their knowledge is sufficient which adds a large burden on the community towards CPR awareness.

From the 21.6% which encountered situations of CPR need 17.6% of them performed CPR compared to KSU students half of the students that encountered, performed CPR.(8)[8] Which is a major difference and problem. Most causes for not performing CPR was ignorance, alongside confusion and fear of infection.

The proportion of students who think learning about CPR must be one of the graduation requirements is 35.6% compared to 45% in KSU study.(8) [8]

Limitation in the study is, focusing on CPR in particular with no regards towards other parts of Basic Life Sup-

TABLE 7

Cause of negative Attitudes		
	Frequency	Percent
Useless	22	4.4
Only for specialist	41	8.2
No enough time	16	3.2
Others	13	2.6
Positive attitudes	408	81.6

TABLE 8

Attitudes about Ways of Improvement of CPR among students		
	Frequency	Percent
Provide more media exposure	185	37.0
Increase Awareness about courses	130	26.0
Provide Free Courses	151	30.2
Increase Number of Courses	116	23.2
Other reasons	13	2.6

port system(BLS). Also, focusing on Jazan University students only without any assessment of the general population which is favored for future studies.

8 CONCLUSION

The overall level of awareness among Jazan university student is low.

Even students with previous knowledge have no sufficient skills to perform CPR.

The main sources of knowledge is not adequate to learn CPR skills correctly.

Most of students have a good attitude to learn about CPR. These are the main results summarized from the research and also helped us in the writing of a number of recommendations to the officials.

9 RECOMMENDATIONS

Publishing brochures, set up awareness campaigns and establishment of a day or week annually regarding CPR in order to increase awareness. Establishment of courses on CPR for arts and science colleges and increase its number in medical colleges. Establishment of training courses for selected medical students to train other students in different colleges.

Develop specific criteria include existence of a certificate on CPR and be a graduation requirement for all university departments.

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