



**AMERICAN UNIVERSITY OF BEIRUT**

**SURVEY OF PARAMEDIC PERSONNEL ON ATTITUDES AND  
PRACTICES RELATED TO RESUSCITATION OF OUT OF HOSPITAL  
CARDIAC ARREST VICTIMS IN LEBANON**

**By**  
**MOHAMAD HUSSEIN HAIDAR**

A project  
submitted in partial fulfillment of the requirements  
for the degree of Master of Sciences in Nursing  
to the Hariri School of Nursing  
of the Faculty of Medicine  
at the American University of Beirut

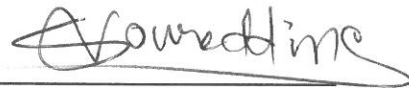
Beirut, Lebanon  
September 2016

AMERICAN UNIVERSITY OF BEIRUT

SURVEY OF PARAMEDIC PERSONNEL ON ATTITUDES AND  
PRACTICES RELATED TO RESUSCITATION OF OUT OF HOSPITAL  
CARDIAC ARREST VICTIMS IN LEBANON

By  
MOHAMAD HUSSEIN HAIDAR

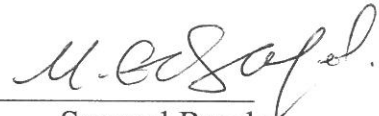
Approved by:



---

Dr. Samar Nouredine, Professor  
Hariri School of Nursing

First Reader



---

Dr. Mazen El Sayed, Associate Professor  
Department of Emergency Medicine

Second Reader

Date of project presentation: September 7, 2016

AMERICAN UNIVERSITY OF BEIRUT

THESIS, DISSERTATION, PROJECT RELEASE FORM

Student Name: Haider Mohamed-Hussein Zaki  
Last First Middle

Master's Thesis     Master's Project     Doctoral Dissertation

I authorize the American University of Beirut to: (a) reproduce hard or electronic copies of my thesis, dissertation, or project; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

I authorize the American University of Beirut, **three years after the date of submitting my thesis, dissertation, or project**, to: (a) reproduce hard or electronic copies of it; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.



Signature

15/9/2016

Date

## ACKNOWLEDGMENTS

Many thanks to the professors that walked me through the steps to finish my degree also the Lebanese red cross personnel that facilitated and participated in this project. Special thanks to Dr. Sayed and Dr. Nouredine for their help, this would not have been possible without their guidance.

## ABSTRACT OF THE PROJECT OF

Mohamad Hussein Haidar for Master of Science  
Major: Nursing

Title:

SURVEY OF PARAMEDIC PERSONNEL ON ATTITUDES AND PRACTICES RELATED TO RESUSCITATION OF OUT OF HOSPITAL CARDIAC ARREST VICTIMS IN LEBANON

The survival rates of out of hospital cardiac arrest victims in Lebanon are much lower than those seen internationally. In Lebanon, there are no national guidelines for resuscitation in outpatient settings. In this study, we examined the cardiopulmonary resuscitation (CPR) practices of paramedic personnel, their attitudes about resuscitation and the problems they face. We also elicited suggestions for improving practice to inform the development of national guidelines that are in line with international standards yet at the same time fit the conditions in Lebanon.

## TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	V
ABSTRACT .....	vi
LIST OF TABLES .....	viii
Chapter	
I. INTRODUCTION .....	1
A. Background .....	2
B. Literature review .....	4
II. METHODS.....	7
A. Sample and Setting.....	7
B. Research Instrument.....	8
B. Procedure for data collection.....	8
C. Data Analysis .....	9
D. Human Subjects Considerations .....	9
III. RESULTS.....	10
IV. DISCUSSION .....	16
A. Limitations .....	20
V. CONCLUSION .....	21
REFERENCES.....	22
APPENDIX A .....	24
APPENDIX B .....	29
APPENDIX C .....	30

## LIST OF TABLES

Table	Page
1. Sample Characteristics (N=258) .....	10
2. Resuscitation Experiences and Perceptions (N = 258) .....	11
3. Attitudes and beliefs regarding Resuscitation (N = 258).....	13
4. Experiences and attitudes related to resuscitation among men and women .....	14
5. Significant experiences and perceptions by years of experience.....	15
6. Significant experiences and challenges by area of practice.....	15



# CHAPTER I

## INTRODUCTION

The survival rates of out of hospital cardiac arrest victims in Lebanon are much lower than those seen internationally. In Lebanon, there are no national guidelines for resuscitation in outpatient settings. In this study, we examined the cardiopulmonary resuscitation (CPR) practices of paramedic personnel, their attitudes about resuscitation and the problems they face. We also elicited suggestions for improving practice to inform the development of national guidelines that are in line with international standards yet at the same time fit the conditions in Lebanon.

Methods: The study design was cross sectional survey. A convenience sample of 300 volunteers was recruited from 10 centers of the Lebanese Red Cross Emergency Medical Services from all Muhafazats. The questionnaire addressed experiences related to resuscitation, attitudes regarding withholding and withdrawing resuscitation in futile situations, problems faced and recommendations for improvement and policy development.

Results: A total of 258 questionnaires were returned (86% response rate). The majority of participants (>80%) were less than 30 years of age, two thirds were men and 70% served in urban areas. Over half the sample reported witnessing up to 10 arrests per year, with 72.5% reporting pre-hospital return of spontaneous circulation in less than 6% of cases. Most participants (91%) reported facing situations where they thought resuscitation should not have been attempted. Participants believed resuscitation ought to be withdrawn in case it was prolonged (55.4%), in presence of advanced directive (34.1%) or advanced terminal illness (27.5%). They reported challenges due to the

reaction of witnesses to the arrest (70.1%), and problems hindering success due to delays in calling them (84.4%), in addition to traffic delays (30%). Participants recommended bystander CPR training lay people in resuscitation (79%), training prehospital providers in advanced airway management (68.2%) and IV skills (60.1%), in addition to providing medications in ambulances (57.7%) and adjusting traffic laws (52%). Participants stated that policy ought to address the duty of lay people in resuscitation, liability aspects, and criteria for withholding and withdrawing resuscitation.

Conclusion: The findings of this study have implications for policy related to resuscitation, traffic laws, and training of paramedic personnel.

## **A. Background**

Reported survival rates of out of hospital cardiac arrest (OHCA) victims up to hospital discharge vary a lot, including up to 19% in Finland (Hiltunen, 2012), depending on the health care system and emergency services in the country, as well as on how survival rates are measured. In Lebanon, a survival rate of 5.5% up to hospital discharge was reported in a study of 214 OHCA victims, out of whom only 45.4% had good neurologic outcomes (El Sayed et al., 2014). Many factors related to the arrest victims and the health system in the country influence survival rates. In Lebanon in particular, there is no law that specifically addresses prehospital care in case of a cardiopulmonary arrest. The factors leading to low survival and affecting resuscitation practice in Lebanon are not known. Furthermore, the perspective of providers of resuscitation and their ideas to improve these practices need to be investigated, which this study was proposing to do.

The American Heart Association (AHA) set guidelines for resuscitation of OHCA victims (Morrison et al., 2010). These guidelines were based on studies that showed that return of spontaneous circulation, cardiac rhythm, availability of a witness at the time of arrest, and availability of defibrillation at the scene predicted the chance of survival of patients with out-of-hospital cardiac arrest (Sasson et al., 2008). It is not known where the practice in Lebanon stands with regard to such internationally accepted evidence based practices. What social, legislative, and logistic factors could stand in the way of applying those guidelines in Lebanon from the providers' point of view? There is no national policy in Lebanon that guides resuscitation practices and no regulation of emergency medical services by the state. Emergency care is provided by the Lebanese Red Cross Emergency Medical Services, Civil Defense, Palestinian Red Crescent Society and the Health Authority. In case of an arrest, one of these groups is called for rescue and transport of the victim to the hospital.

The Vascular Medicine Program at the American University of Beirut is a multidisciplinary unit that utilizes numerous clinical and research resources across campus to promote vascular health and reduce the burden of cardiovascular diseases in Lebanon and the region. The program is particularly focused on actionable strategies developed through research joined by high-impact advocacy initiatives. One initiative of this program is pre-hospital care and disaster preparedness, which aims to improve resuscitation practice through development of an evidence-based national guideline. This group completed a study of emergency physicians in Lebanon, which identified factors contributing to the emergency physicians' decisions related to initiation and discontinuation of resuscitation. The findings showed that the decision to initiate resuscitation is based on physiologic criteria; however withdrawal of resuscitation is

greatly influenced by the wishes of the victim's family. In addition, practice of resuscitation in futile medical situations was quite prevalent (Noureddine et al., 2016). The current study aim was to examine the issue from the point of view of pre-hospital care personnel, who are often the first point of contact of OHCA victims with health care. The findings will provide better insight that can be used in generating the evidence base needed to make policies and guidelines that will bring resuscitation practice in Lebanon at the national level closer to evidence based practice in other countries, within the confines of what is applicable and the available resources, as well as legislative and social boundaries on the national level.

## **B. Literature review**

A number of studies examined resuscitation practices and related experiences among paramedic personnel. In 2003, Marco and Shears surveyed 1546 members of the National Association of Emergency Medical Technicians in the US about their practices related to the initiation, continuation and termination of resuscitation in the pre-hospital setting. Eighty percent of the sample stated that they would withhold resuscitation in the presence of a written state-official advanced directive. Providers with more than ten years of experience were more likely to withhold resuscitation in cases of medical futility or unofficial advanced directives. Although most (77%) of the respondents reported the presence of guidelines for termination of resuscitation, 23% considered those to be inadequate. In a study of 356 pre-hospital providers in Turkey on their views regarding patients' refusal of treatment, the participants reported respect to the patient's right to refuse treatment in general. However, in cases where the patient's medical condition was deemed critical or the patient was not mentally fit for decision making,

they considered that treatment decisions must be the prerogative of the physician (Erbay et al., 2013). In a survey of 900 paramedic personnel in Germany about their attitudes towards resuscitation in the presence of advanced directives and end of life situations, 84% of respondents considered cardiopulmonary resuscitation (CPR) in end-of-life patients as not useful, and 75% stated that they would withhold resuscitation if it were legally possible. The participants recommended more discussion of legal aspects concerning advance directives in paramedic curricula (Taghavi et al., 2011).

Patient factors that were found to predict termination of resuscitation on the scene included older age, being in an extended care facility, having an unwitnessed arrest, and presence of asystole (Eckstein et al., 2005). Also the knowledge about the patients' pre-existing conditions was among the factors considered when deciding on care (Schears, Marco & Iserson, 2004). The impact of having guidelines on resuscitation practice was examined in an observational study of 35 emergency medical services agencies following the establishment of guidelines for withholding resuscitation (Feder, Mathoney, Loveless & Rhea, 2006). The rate of withholding resuscitation was higher in those agencies that implemented the guidelines compared to those that did not. Moreover, agencies that implemented the guideline more than doubled withholding resuscitation while controlling for the victims' age, sex and location of arrest ( $P < 0.001$ ). Interviews with paramedic personnel showed that the guidelines facilitated their resuscitation decisions (Feder et al., 2006).

In a review of ethical and social aspects surrounding out of hospital resuscitation, Ågård, Herlitz, Castrén, Jonsson and Sandman (2011) recommended that paramedic personnel initiate CPR even when in doubt of its utility as it is beyond their competence to know what would be in the patient's best interest. The authors delineated

criteria for withdrawing CPR in the field similar to those proposed by AHA related to physiologic signs of irreversible death, asystole, time since arrest, and lack of witnesses of the arrest. The authors proposed an organization whereby paramedics can consult with emergency physicians when needed to decide on termination of resuscitation (Ågård et al., 2011). Availability of expert medical opinion even through the phone with a hospital was found to significantly affect the paramedic personnel's decision to stop resuscitation in an observational study of nontraumatic OHCA victims in Los Angeles (Eckstein, Stratton & Chan, 2005). Another factor addressed was presence of the victim's family. The ethical dilemma of dealing with patient resuscitation and support of the bereaved family was addressed in a qualitative study by Bremer, Dahlberg and Sandman (2012). The paramedics interviewed expressed a feeling of responsibility towards the families of the arrest victim; however they felt inadequate in balancing reviving the victim and at the same time attending to the emotional needs of the family. Although experience reduced feelings of inadequacy and uncertainty, it was not sufficient in caring for family members (Bremer et al., 2012).

As noted above, resuscitation practices of paramedic personnel are influenced by the physiologic characteristics of the victim, the health care system and resources, as well as ethical factors. Most of these studies were conducted in the West, where emergency medical services are more organized and guidelines for resuscitation practices exist. These findings served as the basis in designing our study and its questionnaire, with modifications made to account for the situation in Lebanon.

## CHAPTER II

### METHODS

#### **A. Sample and Setting**

Approval for the project was obtained from the Institutional Review Board (IRB) of the American University of Beirut. This study used a descriptive survey design. The target population included volunteers of the Lebanese Red Cross Emergency Medical Services. We chose this organization as it is the one that provides the best training in resuscitation and covers all of Lebanon. There are 46 emergency centers for the Lebanese Red Cross Emergency Medical Services (LRC-EMS) throughout the country, each with 30 to 50 volunteers. Approval was sought from the Director of the LRC-EMS to conduct the study (see attached) following a meeting where the study was discussed. There are an estimated 1500 active volunteers at the LRC-EMS. The survey targeted a convenience sample of 350 active volunteers. Potential participants were recruited from 10 centers distributed over 7 zones in the country as follows: 2 from Beirut, one from the North and one from Bekaa, 2 from Southern Mount Lebanon and one from Northern Mount Lebanon, one from the South West and 2 from the South East. The centers were selected to cover all 7 zones, with a balanced representation of urban and rural areas (6 urban and 4 rural) and from those that have 50 volunteers and are located in densely populated and relatively safe areas. Initially we thought that each center has 50 volunteers on average thus totaling 500 potential participants; expecting a 70% response rate, we expected to achieve 350 participants as our sample size. As we investigated further, it became clear that a number of centers do not have 50 volunteers, especially those in the rural areas, so 30

surveys were sent to each center, totaling 300 surveys. A total of 258 completed surveys were returned, resulting in a response rate of 86%.

## **B. Research Instrument**

The questionnaire (see Appendix A) was developed based on the literature and considering the context of emergency services in Lebanon. The items included multiple choice questions regarding withholding and termination of resuscitation efforts in the prehospital setting, problems and challenges that Red Cross volunteers face in their practice, their recommendation for improvement, as well as their estimation of survival rates of OHCA victims, and recommendations related to a national policy on resuscitation. Demographic questions addressed age, gender, years of experience in emergency services, service region (urban or rural) and kind of service (administrative, field). The questionnaire was administered in English to two centers and in Arabic to eight centers after translation and back translation were done.

## **B. Procedure for data collection**

Once approval was secured from IRB and the director of the LRC-EMS, a meeting was held with the team leaders of the 10 targeted centers where a standard script (Appendix B) was used to communicate the study purpose and procedure to them. The questionnaires were then distributed to the centers in envelopes that were placed along with the recruitment letter so the volunteers were informed about the study using the same script above. The cover letter (see Appendix C) served as consent form explaining the purpose, procedure, benefits and harms associated with participation, and emphasizing the voluntary nature of participation. Participants were instructed to return



completed questionnaires to a sealed box placed in the center within 2 weeks.

Questionnaires were collected after 2 weeks.

### **C. Data Analysis**

Sample characteristics were described using frequencies and percent for categorical variables. Frequencies and percent were also used to analyze the questionnaire items. Bivariate analyses using chi squared tests were used to compare men and women, those from urban and rural areas, and based on years of experience on their attitudes and practices related to CPR. For the bivariate analyses, the number of years of experience variable was dichotomized in 2 categories (up to 5 years' experience and more than 5 years' experience).

### **D. Human Subjects Considerations**

This was a minimal risk study as it did not involve any interventions, invasive procedures or sensitive questions. No identifiers were collected and participants were not asked to sign the consent form to ensure their anonymity. An invitation letter template was used for recruiting participants (Appendix B). The questionnaire packet included a cover letter that served as the implied consent. No incentives were offered to the volunteers for participation in the study.

## CHAPTER III

### RESULTS

A total of 300 questionnaires were distributed and 258 were returned completed (86% response rate). The majority of the sample (62.4%) were between the ages of 18 and 25, 63.9% were men and 73.8% had less than 5 years of experience. The majority of participants (70.2%) were from urban areas and 94.1% were field volunteers (Table 1).

**Table 1: Sample Characteristics (N=258)**

<b>Variables</b>	<b>Count</b>	<b>Percent</b>
<b>Age</b>		
• 18-25 years	161	62.4
• 26-30 years	63	24.4
• 31-40 years	29	11.2
• > 40 years	5	1.9
<b>Gender</b>		
• Male	161	63.9
<b>Years of experience</b>		
• < 1 year	38	14.8
• 1 – 2 years	67	26.2
• 3 – 5 years	84	32.8
• > 5 years	67	26.2
<b>Area of service</b>		
• Urban	179	70.2
• Rural	76	29.8
<b>Kind of service</b>		
• Administrative	13	5.9
• Field	206	94.1

In terms of resuscitation experiences (Table 2), 38.3% stated witnessing more than 10 out of hospital cardiac arrests per year, 27.7% witnessed 6-10 per year and 34%

witnessed 5 or less per year. When asked about the proportion of return of spontaneous circulation (ROSC) among the witnessed arrests, 72.5% reported witnessing ROSC in less than a 5% of arrests, 22.1% in 6%-10% of cases and 5.4% in more than 10%. Over half the sample (52.9%) answered that they believed in attempting resuscitation in futile situations (defined as situations where resuscitation will not affect survival); however, 91.1% reported that they have resuscitated patients that they believed should not have been resuscitated. The paramedics' perception of what counts as futile attempts for resuscitation were most frequently decapitation (74.4%), rigor mortis (72.1%), obvious death (cold cyanotic body) in 62%, and un-survivable injuries (34.1%). Many participants chose more than one situation and 14% chose other, which often were repetitions of one of the above categories.

**Table 2: Resuscitation Experiences and Perceptions (N = 258)**

<b>Variables</b>	<b>Count</b>	<b>Percent</b>
<b>Number of cardiac arrests encountered per year</b>		
• 0-5 arrests	87	34.0
• 6-10 arrests	71	27.7
• > 10 arrests	98	38.3
<b>Percent of return of spontaneous circulation in cardiac arrest victims that are witnessed</b>		
• 0-5%	187	72.5
• 6-10%	57	22.1
• > 10%	14	5.4
<b>I think that resuscitation should be initiated in futile situations</b>	136	52.9
<b>I am faced with cases where I believe that the patient should not be resuscitated</b>	235	91.1
<b>Situations where futile resuscitation was practiced*</b>		
• Decapitation	192	74.4
• Rigor mortis	186	72.1
• Obvious death (cold cyanotic body)	161	62.4
• Unsurvivable injuries	88	34.1
• Other	36	14.0

\* The percentages add up to more than 100% since participants were instructed to choose all what applies.

Table 3 shows the results of the attitudes and beliefs regarding resuscitation. When asked when do they believe resuscitation should be stopped, 143 (55.4%) chose prolonged resuscitation (> 30 min), 88 (34.1%) chose when the patient's preferences are known ahead of time, 71 (27.5%) chose advanced terminal illness, and 23 (8.9%) chose old age.

Challenges faced in resuscitating patients were most frequently the witnesses' reactions (70.1%), followed by lack of national policy (11.6%), availability of defibrillators (8.9%), and training (8.1%). As for the problems that influence resuscitation success, participants cited the delay of families in contacting the paramedic services (84.4%) followed by traffic delays (72.1%), delay in initiating resuscitation (30%) then lack of defibrillators in ambulances (20%). Eight participants chose other problems that were not specified.

When asked for suggestions for improving the outcomes of OHCA resuscitation, 204 (79.1%) chose citizen training, 176 (68.2%) advanced airway management training, 155 (60.1%) IV skills training, 154 (59.7%) prehospital medications availability, 134 (52%) traffic law adjustments, and 68 (26.3%) providing ambulances with defibrillators. Finally, the participants suggested that a national policy on resuscitation should address the duty of lay persons in CPR (73.2%), legal aspects (41.5%), criteria for withholding (40.3%) and withdrawing CPR (39.5%). Under other, participants noted the need to allow them to perform intubation, insert IVs and administer emergency drugs.

**Table 3: Attitudes and beliefs regarding Resuscitation (N = 258)**

<b>Variables</b>	<b>Count</b>	<b>Percent*</b>
<b>Situations in which I think resuscitation must be stopped</b>	143	55.4
• <b>Prolonged resuscitation (more than 30 minutes)</b>	88	34.1
• <b>Advanced Directives (patient's wish known ahead of time)</b>	71	27.5
• <b>Advanced terminal illness (e.g. cancer with less than 6 months expected survival)</b>	23	8.9
• <b>Old age</b>		
<b>Challenges faced in resuscitation practice</b>		
• <b>Reactions of witnesses of arrest</b>	181	70.1
• <b>Lack of national resuscitation policy</b>	30	11.6
• <b>Availability of defibrillators</b>	23	8.9
• <b>Resources or equipment (e.g. oxygen)</b>	21	8.1
• <b>Training</b>	20	7.7
<b>Problems that influence resuscitation success</b>		
• <b>People delaying calling an ambulance</b>	218	84.4
• <b>Traffic related delays in reaching the victim</b>	186	72.1
• <b>Delay in initiating resuscitation</b>	77	30.0
• <b>Delay in providing defibrillation</b>	51	20.0
• <b>Other</b>	8	3.1
<b>Suggestions to improve pre-hospital care for OHCA victims</b>		
• <b>Training citizens in resuscitation</b>	204	79.1
• <b>Training emergency technicians in advanced airway management</b>	176	68.2
• <b>Training emergency medical technicians with IV skills</b>	155	60.1
• <b>Making prehospital medications available</b>	154	59.7
• <b>Adjusting traffic laws</b>	134	52.0
• <b>Providing ambulances with defibrillators</b>	68	26.3
• <b>Other</b>	4	1.5
<b>Aspects that a national policy on resuscitation of out of hospital cardiac arrest victims must address</b>		
• <b>Duty of lay people in resuscitation</b>	189	73.2
• <b>Liability/legal aspects</b>	107	41.5
• <b>Criteria for withholding CPR in the field</b>	104	40.3
• <b>Criteria for withdrawing CPR in the field</b>	102	39.5
• <b>Other</b>	6	2.3

\* Some percentages add to more than 100 because many participants chose more than one option.

Comparison by gender, years of experience and area of service (rural versus urban).

Table 4 shows the significant differences by gender in experiences and attitudes related to resuscitation. As noted in the table, men reported witnessing significantly more cardiac arrests than women (44.7% men reporting witnessing > 10 OHCA's per year vs. 27.5% of women) and a more frequent ROSC (7.5% of men vs. 1.1% of women reporting witnessing ROSC in > 10% of OHCA's). Men were also significantly more likely to report believing that resuscitation ought to be terminated in case of advanced directives than females (42.8% vs. 25.3%).

**Table 4: Experiences and attitudes related to resuscitation among men and women**

Variable	Men (n = 161)	Women (n = 97)	$\chi^2$	p
<b>Witnessed OHCA's per year</b>			9.76	0.008
• Up to 5	45 (28.3%)	42 (46.2%)		
• 6-10	43 (27.0%)	24 (26.4%)		
• more than 10	71 (44.7%)	25 (27.5%)		
<b>Percent prehospital ROSC in OHCA's</b>			8.55	0.012
• 0-5%	108 (67.1%)	75 (82.4%)		
• 6-10%	41 (25.5%)	15 (16.5%)		
• More than 10%	12 (7.5%)	1 (1.1%)		
<b>Believed that CPR must be terminated in case of advanced directives</b>	65 (42.8%)	21 (25.3%)	7.06	0.008

NB: Values are numbers and (percent). OHCA: out of hospital cardiac arrest; ROSC: return of spontaneous circulation; CPR: cardiopulmonary resuscitation.

Table 5 shows the significant associations between years of experience and the variables under study. As seen in the table, those with more than 5 years of experience reported witnessing more than 10 arrests per year significantly more frequently than those with 5 years or less; they were also less likely to report lack of defibrillators as a challenge in practice than their less experienced colleagues.

**Table 5: Significant experiences and perceptions by years of experience**

Variable	Up to 5 years of experience (n = 189)	More than 5 years of experience (n = 67)	$\chi^2$	p
<b>Witnessed OHCA's per year</b>			8.52	0.014
• Up to 5	73 (39.0%)	14 (20.9%)		
• 6-10	51 (27.3%)	19 (28.4%)		
• More than 10	63 (33.7%)	34 (50.7%)		
<b>Lack of defibrillator is a challenge in practice</b>	21 (11.9%)	2 (3.2%)	4.05	0.044

NB: Values are numbers and (percent). OHCA: out of hospital cardiac arrest.

Table 6 shows the significant differences in attitudes and reported problems by area of service. As seen in the table, those in urban areas were significantly more likely to report delays due to traffic as problem in their practice than those in rural areas (78.1% vs. 59.2%,  $\chi^2=9.51$ , df = 1, p = 0.002) and were also more likely to report delay in defibrillation as a problem in their practice than those in rural areas (23.6% vs. 11.8%,  $\chi^2=4.59$ , df = 1, p = 0.032). On the other hand, those in rural areas were more likely to report believing in withdrawing resuscitation in old age (17.6% vs. 6.1%,  $\chi^2=7.78$ , df = 1, p = 0.005) and in cases of terminal illness with short life expectancy (51.4% vs. 31.5%, 8.56, df=1, 0.003) than those working in urban areas.

**Table 6: Significant experiences and challenges by area of practice**

Variable	Urban (n = 179)	Rural (n = 76)	$\chi^2$	p
<b>Traffic is a problem</b>	139 (78.1%)	45 (59.2%)	9.51	0.002
<b>Delay in defibrillation is a problem</b>	42 (23.6%)	9 (11.8%)	4.59	0.032
<b>CPR must be withdrawn/stopped in old age</b>	10 (6.1%)	13 (17.6%)	7.78	0.005
<b>CPR must be withdrawn/stopped in case of terminal illness</b>	52 (31.5%)	38 (51.4%)	8.56	0.003

NB: Values are numbers and (percent). OHCA: out of hospital cardiac arrest; CPR: cardiopulmonary resuscitation.

## CHAPTER IV

### DISCUSSION

To our knowledge this is the first study that explored the attitudes and practices related to resuscitation among paramedic personnel in Lebanon, a country that lacks an organized national emergency care system. The sample involved in this study was a relatively young sample with most reporting less than 5 years of experience. Over two thirds were male and around 70% work in urban areas. The volunteers were mostly involved in fieldwork (94.1%), which might offer reasonable insight to the actual practice in the field and the perceptions and attitudes of those involved in direct patient care. The low ROSC rate reported in this study is in line with the low survival rate of OHCA victims reported in Lebanon (El Sayed et al., 2014).

Although more than half of the sample (52.9%) stated that they would initiate resuscitation on patients in futile situations, 91.1% stated that they had initiated resuscitation on patients they believed should not have been resuscitated. This inconsistency in findings may be accounted for by the mandate of the Lebanese Red Cross Emergency Medical Services training, whereby volunteers are instructed to initiate resuscitation and continue it during transport regardless of the case, the only exception being the case of decapitation. Another interpretation could be the participants' lack of confidence in their ability to ascertain the futility of resuscitation as noted by Ågård and colleagues (2011), who stated that it is beyond the competence of paramedic personnel to know for sure what is in the best interest of the victim. It is worth noting that LRC-EMS volunteers get their training regardless of how far they reached in school and are not required to have health education background. The



volunteers' training at the LRC-EMS involves exact protocols that are strictly followed. The cases the participants considered to be futile for resuscitation were the commonly acknowledged ones, such as decapitation, rigor mortis and obvious signs of death.

The participants also stated that they thought resuscitation ought to be withdrawn when it is not likely to be useful to the patient's outcome, such as when it takes too long, when the patient or the legal guardians' preference is against it and in case of advanced terminal illness. Other investigators (Marco et al., 2003; Tagavi et al., 2011) highlighted advanced directives as a key factor in resuscitation decisions, and much more frequently than what the current findings show. In Lebanon, advanced directives are not commonly practiced, partly because they may be at odds with religious beliefs, and partly since the Lebanese society is collectivist, with major life and death decisions made by the family rather than the individual. Anecdotal evidence in critical care settings in Lebanon provides many examples where patients' preferences regarding resuscitation get overridden by family members once the patient is unconscious. Old age was reported as a situation where resuscitation must be stopped by only 8.9% of participants, whereas it was a predictor of termination of resuscitation in other studies (Eckstein et al., 2005). This finding may reflect the valuing of older adults in the Lebanese culture. In addition, since only the physician has the authority to declare death in Lebanon and in light of their training, LRC-EMS personnel would continue resuscitation till they reach an emergency department. Ågård et al. (2011) also recommended having paramedic personnel consult with a physician regarding resuscitation. In Lebanon, the LRC-EMS personnel contact emergency departments to report the patient's condition and check whether the patient can be accepted or not, but

do not consult the ED staff regarding whether or not to stop resuscitation, as this is counter to their principles of practice.

When it came to the challenges faced by the paramedics in their practice the most frequently cited was the witnesses' presence and their reaction, similar to the findings by Nouredine et al. (2016) and Bremer et al. (2012). The second most frequent challenge was lack of national policy, in line with Nouredine et al.'s (2016) findings. One challenge that was possibly under reported (8.1%), was the availability of defibrillators; this could be attributed to the recent introduction of defibrillators in ambulances, especially in urban areas, where the majority of the sample came from. For the one third of participants who were from rural areas, the absence of defibrillators was not reported as a problem, probably due to their lack of awareness about the importance of early defibrillation in these cases. This requires further study since in 2015 all ambulances were equipped with automated External Defibrillators (AEDs) as per the LRC-EMS regulations.

The problems that participants reported to influence resuscitation success included delays in the initiation of CPR and in contacting paramedics. However, one problem that is unique to Lebanon is traffic related delays mainly due to traffic laws not being properly implemented in these events.

Suggestions for improving resuscitation practice reported by more than half the sample in this study centered on training lay persons in CPR, training paramedic personnel in advanced airway management and IV therapy, and provision of medications in ambulances. These findings are unique to Lebanon since the Lebanese law does not allow paramedics to practice these skills, which in turn limits the scope of practice of the providers, which added to traffic related delays can be very negative for

the patients' outcomes. This finding is supported by the suggestion by 26.3% to adjust traffic laws in order to facilitate the timely arrival of the ambulance to the emergency department. Training the public, being the most frequent suggestion, is a very valid first step given the other variables. Training lay people in resuscitations can affect the overall survival rate since it can decrease the time till resuscitation, thus resulting in more successful resuscitation. This recommendation echoes the one made by emergency physicians in the study by Nouredine and colleagues (2016), as do the recommendations on what a national resuscitation policy ought to include.

Bivariate analyses showed that men have more experience with cardiac arrests compared to women and more frequent ROSC in the cases they saw. Anecdotal evidence suggests that when the dispatcher is called at the headquarters, he/she is more likely to send out a male volunteer when the case is an arrest, whereas women may be sent to less severe cases. The less experienced participants were more likely to report lack of defibrillator as a challenge than the more experienced ones. This finding may be due to the recent increased awareness of the importance of defibrillators in the health media by some groups in Lebanon.

Participants from urban areas were more likely to report delays in traffic as expected, considering the traffic jams in cities. They also reported more delays in defibrillation than those from rural areas, which may be accounted for by higher expectations or more availability of defibrillators in urban ambulances. On the other hand, rural participants were more likely to report thinking that resuscitation ought to be stopped in cases of old and terminally ill arrest victims. This may reflect a more fatalistic view of cultural groups in the Lebanese villages.

## **A. Limitations**

This study is limited by the sample that included the paramedic personnel of only one agency in Lebanon and that provides the best training in the country. This sample may not represent all such agencies. Moreover, the urban responders were overrepresented in this study, which may affect the results. Being a quantitative survey limits the depth of information, especially for some results that are difficult to interpret; however we were concerned to make it a simple survey to reduce participant burden.

## CHAPTER V

### CONCLUSION

These findings have implications for the development of a national policy on resuscitation, particularly out of hospital. The findings also suggest the need to develop programs that can be used to further train the paramedics and advance their scope of practice, as well as training lay persons to help improve the outcomes of OHCA victims. That is particularly evident in the participants' answers about problems, challenges, and suggestions for improving practice. New educational laws that govern resuscitation training may help address these challenges in order to increase the positive outcomes of the victims, as long as early hospital care is delayed by traffic jams. The findings call for a serious consideration of adjusting traffic laws so the path remains open for ambulances to get arrest victims quickly to emergency care. As for the resuscitation policy, again the findings emphasize the issue of community training, and providing guidelines on withdrawing and withholding resuscitation. All these findings make it clear that many challenges and problems faced by the paramedics can be countered by a law that better defines the responsibilities of all individuals and organizations involved in this process (municipalities, paramedics, training organizations, and possibly, most importantly the lay person).

## REFERENCES

- Ågård, A., Herlitz, J., Castrén, M., Jonsson, L., & Sandman, L. (2012). Guidance for ambulance personnel on decisions and situations related to out-of-hospital CPR. *Resuscitation*, 83(1), 27-31.
- Bremer, A., Dahlberg, K., & Sandman, L. (2012). Balancing Between Closeness and Distance: Emergency Medical Services Personnel's Experiences of Caring for Families at Out-of-Hospital Cardiac Arrest and Sudden Death. *Prehospital and Disaster Medicine*, 27(1), 42-52.
- Eckstein, M., Stratton, S. J., & Chan, L. S. (2005). Termination of Resuscitative Efforts for Out-of-hospital Cardiac Arrests. *Academic Emergency Medicine*, 12(1), 65-70.
- El sayed, M., Tamim, H., Nasreddine, Z., Dishjekenian, M., & Kazzi, A. A. (2014). Out-of-hospital cardiac arrest survival in Beirut, Lebanon. *European Journal of Emergency Medicine*, 21(4), 281-283.
- Erbay, H., Alam, S., & Kadioglu, S. (2014). Attitudes of prehospital emergency care professionals toward refusal of treatment: A regional survey in Turkey. *Nursing Ethics*, 21(5), 530-539.
- Feder, S., Matheny, R. L., Loveless Jr., R. S., & Rea, T. D. (2006). Withholding Resuscitation: A New Approach to Prehospital End-of-Life Decisions. *Annals of Internal Medicine*, 144(9), 634-640.
- Hiltunen, P., Kuisma, M., Silfvast, T., Rutanen, J., Vaahersalo, J., Kurola, J., and the Finnresusci Prehospital Study Group (2012). Regional variation and outcome of out-of-hospital cardiac arrest (ohca) in Finland – the Finnresusci study. *Journal of Trauma, Resuscitation and Emergency Medicine*, 20(80), 1-8. Retrieved from: <http://www.sjtrem.com/content/20/1/80>
- Marco, C. A., Schears, R. M. (2003) Prehospital resuscitation practices: a survey of prehospital providers *The Journal of Emergency Medicine*, 24(1), 101–106. doi:10.1016/S0736-4679(02)00688-1
- Morrison, L. J. , Kierzek, G. , Diekema, D. S. , Sayre, M. R., Silvers, S. M., Idris, A. H., & Mancini, M. E.( 2010). Part 3: Ethics: 2010 American Heart Association Guidelines for Cardiopulmonary. Resuscitation and Emergency Cardiovascular Care. *Circulation*, 122, S665-S675. doi: 10.1161/CIRCULATIONAHA.110.970905

- Noureddine, S., Avedissian, T., Ismaeel, H., El Sayed, M. Assessment of Cardiopulmonary Resuscitation Practices in Emergency Departments for Out of Hospital Cardiac Arrest Victims in Lebanon. Accepted by *Journal of Emergencies, Trauma, and Shock*
- Sasson, C., Hegg, A. J., Macy, M., Park, A., Kellermann, A., & McNally, B. for the CARES surveillance Group (2008). Prehospital termination of resuscitation in cases of refractory out-of-hospital cardiac arrest. *JAMA*, 300(12), 1432-1438.
- Schears, R. M., Marco, C. A., & Iserson, K. V. (2004). "Do not attempt resuscitation" (DNAR) in the out-of-Hospital setting. *Annals of Emergency Medicine*, 44(1), 68-70.
- Taghavi, M., Simon, A., Kappus, S., Meyer, N., Lassen, C. L., Klier, T., Ruppert, D. B., Graf, B. M., Hanekop, G. G., & Weise, C. HR. (2011). Paramedics experiences and expectations concerning advance directives: A prospective, questionnaire-based, bi-centre study. *Journal of Palliative Medicine*, 26(7), 908-916.

## APPENDIX A

### Survey of Emergency Medical Personnel on Attitudes and Practices Related to Resuscitation of out of Hospital Cardiac Arrest Victims

Dear participant,

Please read each question carefully and check the answer that corresponds to your choice. There is no right or wrong answer; for questions 9 to 14, you may choose more than one answer.

1. Age  
 18-25 years     26-30 years     31-40 years     above 40 years
2. Gender:             Male                             Female
3. Area of service:             Urban                             Rural
4. Years of experience:         < 1 year             1-2 years             3-5 years  
                                          > 5 years
5. Kind of service:             Administrative                     Field
6. Number of out of hospital cardiac arrest cases encountered per year:  
 0-5                     6-10                     more than 10
7. What is the percentage of return of spontaneous circulation (return of pulse) in out of hospital cardiac arrest victims that you have witnessed?  
 0-5%                     6-10%                     more than 10%
8. Do you believe that resuscitation should be initiated in futile conditions (situations where resuscitation will not affect survival)?  
 Yes                                             No
9. Are you faced with cases where you believe that the patient should not be resuscitated?  
 Yes                                             No  
If you answered yes to question 9, in what situations? Check all that apply  
 Decapitation  
 Obvious death (cold cyanotic body)  
 Unsurvivable injuries  
 Rigor mortis  
 Other:



10. In which case(s) below do you believe that resuscitation should be stopped?  
Check all that apply
1. Prolonged resuscitation (more than 30 minutes)
  2. Advanced directives (if the wish of the patient is known ahead of time)
  3. Old age
  4. Advanced terminal illness (such as cancer with less than 6 months survival expected)
  5. Other:
11. What are the challenges you face in your resuscitation practice? Check all that apply
1. Lack of policy (guidelines related to resuscitation)
  2. Resources or equipment like having oxygen or other in the ambulance
  3. Availability of defibrillators
  4. Training
  5. Reactions of witnesses (lay people) of the arrest
  6. Other
12. Which are problems you face in your practice that may influence the success in resuscitation? Check all that apply
1. People delaying calling for an ambulance
  2. Traffic related delays in reaching the cardiac arrest victim
  3. Delay in initiating resuscitation
  4. Delay in providing defibrillation
  5. Other
13. What are your suggestions for improving pre-hospital care for out of hospital cardiac arrest victims? Check all that apply
1. Providing ambulances with defibrillators
  2. Training citizens in resuscitation
  3. Adjusting traffic laws
  4. Training emergency medical technicians in advanced airway management
  5. Training emergency medical technicians with IV skills
  6. Making prehospital medications available
  7. Other:
14. If a national policy for handling out of hospital arrests were to be developed, what aspects do you think it must address? Choose all that apply
1. Criteria for withholding resuscitation in the field
  2. Criteria for terminating resuscitation in the field
  3. Liability/legal aspects
  4. Duty of lay people in resuscitation
  5. Other, please specify:

Thank you for Taking the Time to Answer the Survey

اسقضاء عن ممارسة ومواقف مسعفي حالات الطوارئ في ما يتعلق بانعاش ضحايا توقف القلب خارج المستشفى

حاضرة المُسعف،

الرجاء قراءة كل سؤال بعناية واختيار الجواب الذي يتطابق مع خيارك. ليس هناك جواب صح أو خطأ. عند الإجابة على الأسئلة ٩ إلى ١٤، يمكنك اختيار أكثر من جواب واحد

١. العمر:  18-25 سنة  26-30 سنة  31-40 سنة  أكثر من 40 سنة

٢. الجنس:  ذكر  أنثى

٣. مركز التطوع:  المدينة  الأرياف

٤. سنوات الخبرة:  أقل من سنة  سنة إلى سنتين  3 إلى 5 سنوات  أكثر من 5 سنوات

٥. نوع العمل:  اداري  ميداني

٦. ما هو عدد حالات توقف القلب التي تصادفها سنوياً :

صفر-5  6-10  أكثر من 10

٧. ما هي نسبة ضحايا توقف القلب الذين صادفتهم الذين استعادوا الدورة الدموية (النبض)؟

صفر إلى 5%  6-10%  أكثر من 10%

٨. هل تعتقد بوجود انعاش المريض الميؤوس من حالته طبياً (الحالات حيث الإنعاش لا يؤثر على بقاء المصاب على قيد الحياة) :

نعم  كلا

٩. هل هناك حالات تصادفها تشعرك بوجود عدم الانعاش :

كلا  نعم

في حال أجبت بنعم على السؤال السابق، ما هي تلك الحالات؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه:

1. انفصال الرأس

2. الموت الواضح (جسد بارد مزرق)

3. إصابات لا يمكن النجاة منها

4. تيبس الميت  rigor mortis

5. غير ذلك حدد:

١٠. في اي من الحالات أدناه تعتقد أنه يجب إيقاف الإنعاش؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه:

1. إنعاش لفترة طويلة (أكثر من 30 دقيقة) من دون جدوى
2. توجيهات مسبقة في حال معرفة رغبة المريض قبل توقف قلبه
3. التقدم بالسن
4. المصاب يعاني من مرض عُضال ، مثلا السرطان مع توقع بقاءه(ها) على قيد الحياة أقل من 6 أشهر
5. غير ذلك حدد:

١١. ما هي التحديات التي تواجهها في ممارستك الإنعاش؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه:

1. عدم وجود سياسة أو توجيه أو إرشادات في ما يتعلق بالإنعاش.
2. موارد أو أدوات مثلا أكسجين أو غيره في سيارات الإسعاف
3. تواجد مزيل الرجفان defibrillator في سيارات الإسعاف
4. تدريب
5. ردة فعل الشاهدين (الناس العاديين) على توقف القلب.
6. غير ذلك حدد:

١٢. ما هي المشاكل التي تواجهك في ممارستك والتي قد تؤثر على نجاح عملية الإنعاش؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه:

1. تأخر الناس في طلب سيارة الإسعاف
2. التأخر في الوصول إلى المصاب بتوقف القلب بسبب زحمة السير
3. التأخر في البدء بعملية الإنعاش
4. التأخر في إعطاء الصدمات الكهربائية defibrillation
5. غير ذلك حدد:

١٣. ما هي اقتراحاتك لتحسين العناية قبل الوصول إلى المستشفى لضحايا توقف القلب خارج المستشفيات؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه:

1. تأمين أجهزة صدم كهربائية defibrillator

2. تدريب المواطنين على الإنعاش
3. تعديل قوانين السير
4. تدريب المسعفين على العناية المتقدمة للمسالك الهوائية advanced airway management
5. تدريب المسعفين على إعطاء المصل intravenous skills
6. اعطاء ادوية الانعاش
7. غير ذلك حدد:

١٤. في حال إنشاء سياسة وطنية للتعامل مع حالات توقف القلب، أي من المواضيع أدناه يجب أن تُعالج؟ اختر كل الإحتمالات التي تراها مناسبة من اللائحة أدناه

1. معايير للإمتناع عن بدء الإنعاش في الميدان (خارج المستشفى)
2. معايير لوقف الإنعاش في الميدان (خارج المستشفى)
3. المسؤوليات والجوانب القانونية
4. واجبات الناس العاديين في الإنعاش
5. غير ذلك حدد:

شكرا على مشاركتك في الدراسة



## APPENDIX B

AUB Social & Behavioral Sciences

### INVITATION SCRIPT

Invitation to Participate in a Research Study

This notice is for an AUB-IRB Approved Research Study

for Dr. Samar Nouredine at AUB.

Hariri School of Nursing, American University of Beirut

\*It is not an Official Message from AUB\*I am inviting you to participate in a research study about the attitudes and practices of Red Cross personnel related to the resuscitation of out of hospital cardiac arrest victims in Lebanon

You will be asked to complete a short questionnaire with demographic information and questions about your practice, attitudes and the challenges you face in performing resuscitation.

You are invited because we are targeting Red Cross Personnel from 10 centers distributed all over Lebanon. You are eligible for this study if you are at least 18 years of age and volunteer for the Lebanese Red Cross.

The estimated time to complete this survey is approximately 5 minutes.

Please read the consent form and consider whether you want to be involved in the study. If you have any questions about this study, you may contact the investigator Dr. Samar Nouredine, Hariri School of Nursing, American University of Beirut, Tel: 03-579451 for further information regarding the study.

## APPENDIX C

American University of Beirut Faculty of Medicine, Hariri School of Nursing  
Informed Consent

Title: Survey of Paramedic Personnel on Attitudes and Practices Related to Resuscitation of Out of Hospital Cardiac Arrest Victims In Lebanon.

Researchers: Dr. Samar Noureddine, Mohamad Haidar: Hariri School of Nursing, American University of Beirut (AUB).

Dear Paramedic,

We are inviting you through this consent to participate in a research study about the current CPR (cardio pulmonary resuscitation) practice for out of hospital cardiac arrest victims. The aim of the study is to explore the current practice in order to be able to develop national guidelines that would be appropriate for the context of Lebanon. Your participation in this study helps identify the factors that affect the current practice of CPR in the field where you help save lives. There are no direct benefits for you from participating in this study. Nevertheless, your participation is very important to help us develop guidelines to improve the outcomes of resuscitation of out of hospital arrest victims.

We aim to recruit 350 paramedics from 10 Lebanese Red Cross centers that were chosen in coordination with the administration of the Lebanese Red Cross such that they represent Lebanese territory (Beirut, Mount Lebanon North and Mount Lebanon South, North of Lebanon, Bekaa, South West and South East). The study team will meet with you at the Red Cross Center to introduce the study and give out the questionnaires to those interested in participating. If you agree to participate in the survey, please answer the questions below then put your completed survey in the box provided in the center for this purpose within a period of 2 weeks. We expect the survey to take around five minutes of your time. There are no anticipated risks from participating in this survey beyond those of daily life.

Participating in this study is completely voluntary. Your refusal to participate or decision to withdraw from participation will involve no loss of benefit in relation to AUB or the Lebanese red cross in any way. You may skip any question you don't want to answer; you may also stop whenever you wish to.

This study is completely confidential, we will not be asking for any information that may expose your identity such as your name. The results will not be reported individually but in group form. Only the researchers will access the collected data. We will monitor the data without breaching its confidentiality.

The records will be stored in the PI's office in a secure and locked place for 3 years. Records might be audited by the Institutional Review Board (IRB) while maintaining participant confidentiality.

The IRB at AUB and the Lebanese Red Cross administration approved this study. If you have any questions regarding this study please contact the principal investigator, Dr. Samar Noureddine, faculty of medicine, Hariri school of nursing, AUB, Lebanon. Phone: 03/579451. If you have more questions about your rights as participant in this

study, you may contact the IRB office for social and behavioral sciences at AUB.  
Phone: 01/350000 Extension: 5445, 5454.

Thank you for taking the time to participate in this study.

Dr. Samar Nouredine: Professor at Rafic Hariri School of nursing, American  
University of Beirut. Phone: 01/350000, ext: 5966 email: sn00@aub.edu.lb

الجامعة الأمريكية في بيروت، كلية الطب، مدرسة الحريري للتمريض  
موافقة على بحث علمي

**عنوان البحث:** اسقضاء عن ممارسة ومواقف مسعفي حالات الطوارئ في ما يتعلق بانعاش ضحايا  
توقف القلب خارج المستشفى

**الباحثون:** د. سمر نورالدين، محمد حيدر: مدرسة الحريري للتمريض، الجامعة الأمريكية في  
بيروت

حضرة المسعف في الصليب الأحمر اللبناني،

ندعوكم من خلال هذه الموافقة للمشاركة في بحث علمي حول الممارسات الحالية المتعلقة  
بالإنعاش القلبي الرئوي (CPR) لضحايا توقف القلب التي تحصل في الميدان (خارج المستشفى).  
الهدف من البحث هو استطلاع الممارسات الحالية بحيث يمكن وضع مبادئ توجيهية وطنية  
للإنعاش تتلاءم مع الوضع في لبنان.

إن مشاركتك في هذه الدراسة تساعد في تحديد العوامل التي تؤثر على ممارسة CPR في الميدان  
حيث تنقذ حياة المصابين. ليس هناك فائدة مباشرة لك من المشاركة في الدراسة. ومع ذلك،  
مشاركتك مهمة جدا يمكن أن تساعدنا على وضع مبادئ توجيهية لتحسين نتائج إنعاش ضحايا  
توقف القلب في الميدان.

نحن نسعى لاستقطاب ٣٥٠ مُسعف من ١٠ مراكز للصليب الأحمر اللبناني تم اختيارها بالتنسيق  
مع إدارة الصليب الأحمر اللبناني بحيث تمثل كافة المناطق (بيروت، جبل لبنان الشمالي وجبل  
لبنان الجنوبي، الشمال، البقاع، والجنوبين الشرقي والغربي). سوف يجتمع بكم فريق البحث في

مركز الصليب الأحمر حيث تعملون لإطلاعكم على الدراسة وتوزيع الإستمارة على من يرغب بالمشاركة. إذا وافقت على المشاركة في المسح، الرجاء الإجابة على الأسئلة أدناه ثم وضع الإستمارة في الصندوق المتوفر لهذا الهدف خلال مدة أقصاها أسبوعين. نتوقع أن يستغرق ملء الاستمارة حوالي 5 دقائق من وقتك. لا يُتوقع أن تسبب مشاركتك في هذه الدراسة أي خطر أكثر من مخاطر الحياة اليومية.

المشاركة في هذا المسح طوعية. رفضك المشاركة أو قرارك بالانسحاب لن يؤدي إلى خسارتك أي فائدة ولن يؤثر على علاقتك بالجامعة الأمريكية في بيروت او بالصليب الاحمر اللبناني. يمكنك تخطي أي سؤال، ويمكنك التوقف عن المشاركة في أي وقت.

هذه الدراسة هي سرية تماما ولن نطلب أي معلومات ممكن أن تكشف عن هويتك مثل اسمك. لن نعرض نتائج فردية بل على مستوى المجموعة. فريق البحث فقط سوف يستطيع الوصول إلى البيانات. سوف نرصد وندقق في البيانات من دون انتهاك سرية المعلومات. سيتم حفظ بيانات هذا البحث في مكان آمن و مقفل في مكتب الباحث الرئيسي لمدة ثلاث سنوات. قد يدقق مجلس الاخلاقيات في الجامعة الاميركية في بيروت بسجلات الدراسة مع مراعاة السرية التامة للمشاركين.

لقد وافق مجلس الأخلاقيات للجامعة الأميركية في بيروت وإدارة الصليب الأحمر اللبناني على هذه الدراسة. إذا كان لديك أي أسئلة بخصوص هذه الدراسة الرجاء الاتصال بالباحث الرئيسي الدكتورة سمر نور الدين، كلية الطب، مدرسة الحريري للتمريض، الجامعة الأميركية في بيروت، لبنان. الهاتف: 579451/03.

إذا كان لديك المزيد من الأسئلة حول حقوقك كمشارك في هذه الدراسة، يمكنك الاتصال بمجلس الأخلاقيات للعلوم الاجتماعية والسلوكية في الجامعة الأميركية في بيروت هاتف: 350000/01 مقسم 5445 أو 5454.

شكرا لكم لأخذ الوقت للمشاركة في هذه الدراسة.

د. سمر نورالدين: أستاذة في مدرسة رفيق الحريري للتمريض، الجامعة الأميركية في بيروت  
هاتف: 01-350000، مقسم 5966 البريد الإلكتروني: [sn00@aub.edu.lb](mailto:sn00@aub.edu.lb).