

KNOWLEDGE, ATTITUDE AND PRACTICE OF PREHOSPITAL EMERGENCY IN VIETNAM, 2023

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ABSTRACT

Objective: Assessing the knowledge, attitude and practice of prehospital emergency in Vietnam in 2023.

Subjects and methods: A survey on 10,800 people was implemented to assess the status of prehospital emergency and the capacity of the local health system.

Results: Only 33.65% of people knew about emergency calls and 33.20% of people did not know or sure about emergency calls. 49.48% of people believed that ambulances are useful, medical staff are useful in emergency care (50.04%). All residents estimated the ambulance's time of arrival after calls around 5 - 60 minutes. The majority of people chose to transport emergency patients by taxi, personal car or carrying patients to the hospital, only 32.63% of people chose to call an ambulance when at home and 33.80% when outside. Most people reported to trust emergency medical service workers when the ambulance arrived at the scene or when the patient was hospitalized.

Conclusion: Although people's knowledge and attitude towards prehospital emergency were inadequate, most people trusted medical staff when they arrived at the emergency scene or when taking patients to the hospital.

Keywords: Knowledge, attitude, practice, prehospital emergency.

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1. INTRODUCTION

Emergency medical services play a crucial role in improving the effectiveness of treating acute illnesses, acute exacerbations of chronic diseases [1]. Emergency care efficiency can be significantly enhanced when accessed through well-organized, trained, and technically proficient care systems [2]. Currently, every patient in emergency situations can easily access emergency medical services via phone, immediate responses, and support from prehospital emergency-trained specialists [3]. In areas where resources for emergency medical services are limited, including ambulances for patient transportation, residents often perceive these services as ineffective and inadequately equipped to respond to acute and life-threatening cases [1], [4], [5]. This study was conducted with the objective of **“Assessing the current status of knowledge, attitude, and practices of residents regarding prehospital emergency”**.

2. RESEARCH SUBJECTS AND METHODS

2.1. Study design: Descriptive cross-sectional study of the current state of prehospital emergency (PHE)

2.2. Study location and time of implementation:

Location: 6 provinces and cities: Hanoi, Ho Chi Minh City, Da Nang, Ha Nam, Quang Nam, and Tien Giang

Time: From 1/2023 to 12/2023.

2.3. Study participants: A total of 10,800 participants took part in the survey, evaluating the current status of prehospital emergency (PHE) and the responsiveness of the basic healthcare system to PHE in six provinces and cities: Hanoi, Ho Chi Minh City, Da Nang, Ha Nam, Quang Nam, and Tien Giang.

2.4. Study Content

Study Content: The research involves surveying the status of PHE at the study locations. Simultaneously, the study assesses the knowledge, attitudes, and practices of residents regarding various PHE techniques.

Research variables:

- Characteristics of the existing human and material resources, as well as the deployment capabilities of PHE units at the study locations.
- Characteristics of the knowledge about PHE among the participants in the study.
- Characteristics of the attitudes towards PHE among the participants in the study.
- Characteristics of the practices related to PHE techniques among the participants in the study.

2.5. Data analysis: Data were entered and analysed using IBM SPSS Statistics 22.0

3. RESULTS

Table 1. Characteristics of PHE according to public assessment (n=10800)

Characteristics		Quantity (n)	Percentage (%)
Work intensity at the 115 Emergency Center	Normal	5403	50,03
	Busy	5397	49,97
Work overload status	Occasionally	5453	50,49
	Frequently	5347	49,51
Satisfaction level with PHE	Satisfied	3707	34,32
	Moderately satisfied	3540	32,78
	Dissatisfied	3553	32,90
Emergency call demand	Yes	5385	49,86
	Depends on the situation	5415	50,14
Time to arrive at the scene (mean ± SD) (min)		30,97 ± 11,28	



49.97% of the population considered the work intensity at the 115 Emergency Center as busy, while the remaining considered it normal, and none assessed it as leisure. All citizens evaluated the work at the emergency center as overloaded, with 49.51% stating it occurred frequently. 32.90% of the population believed that the personnel at the 115 Emergency Center were dissatisfied with their work. Additionally, 49.86% of the population expressed a need for emergency calls.

Table 2. Causes of PHE according to public assessment (n=10800)

Cause	Distribution (%)	
	Mean ± SD	Min – max
Trauma	60,04 ± 11,44	40 – 80
Non-trauma	39,96 ± 11,44	20 – 60
Causes of trauma		
Head trauma	32,27 ± 4,50	25 – 40
Chest trauma	16,85 ± 4,65	10 – 25
Abdominal trauma	20,01 ± 3,18	15 – 25
Pelvic trauma	7,82 ± 2,15	5 – 15
Extremity trauma	23,05 ± 7,34	0 – 44
Causes of non-trauma		
Cardiovascular disease	35,01 ± 3,17	30 – 40
Respiratory disease	24,97 ± 3,16	20 – 30
Digestive system disease	9,96 ± 3,15	5 – 15
Urinary system disease	7,51 ± 1,71	5 – 10
Other	22,55 ± 5,75	5 – 40

The majority of the population believed that the cause of Emergency Medical Services (CCTBV) was due to trauma and wounds, accounting for approximately 40-80%, with an average of 60.04 ± 11.44%. Non-traumatic conditions accounted for 39.96 ± 11.44%. Among the

types of trauma, head trauma had the highest proportion at 32.27 ± 4.50%. Cardiovascular diseases represented the highest proportion among emergency illnesses, accounting for 35.01 ± 3.17%.

Table 3. Prehospital emergency response by witnesses according to public assessment (n=10800)

Characteristics	Distribution (%)	
	Mean \pm SD	Min – max
Characteristics of witnesses		
Family members	47,48 \pm 7,49	35 – 60
Colleagues	15,00 \pm 3,15	10 – 20
Friends	9,93 \pm 3,16	5 – 15
Other	27,59 \pm 8,67	5 – 50
Location of occurrence		
Residence	22,50 \pm 1,71	20 – 25
On the street	27,47 \pm 4,60	20 – 35
School	12,49 \pm 1,70	10 – 15
Sports/entertainment center	7,49 \pm 1,70	5 – 10
Workplace	7,50 \pm 1,71	5 – 10
Other	22,55 \pm 5,69	5 – 39
Response of the witness		
Call 115	17,54 \pm 1,71	15 – 20
Bystander first aid	52,46 \pm 7,51	40 – 65
First aid under guidance	7,52 \pm 1,71	5 – 10
Other	22,47 \pm 7,86	5 – 40

The majority of witnesses to cases requiring prehospital emergency care were family members of the patients, accounting for 35-60%, with an average of 47.48 \pm 7.49%. Most incidents occurred on the street at 27.47 \pm

4.60% and at the residence at 22.50 \pm 1.71%. Bystanders took the initiative to administer first aid in the majority of situations, accounting for 52.46 \pm 7.51%.

Table 4. Emergency patient transportation according to public assessment (n=10800)

Characteristics	Distribution (%)	
	Mean \pm SD	Min – max
Means of transportation		
Ambulance	10,01 \pm 3,17	5 – 15
Taxi	14,91 \pm 3,15	10 – 20
Private car	30,03 \pm 6,05	20 – 40
Motorbike	15,00 \pm 3,16	10 – 20
Other	30,04 \pm 8,24	6 – 54
Time to transfer to medical facility (min)	35,04 \pm 14,67	10 – 60



Characteristics	Distribution (%)	
	Mean ± SD	Min – max
Medical facility transported to		
Central hospital	7,49 ± 1,69	5 – 10
Provincial hospital	10,01 ± 3,18	5 – 15
District hospital	34,96 ± 3,17	30 – 40
Commune health station	12,50 ± 1,71	10 – 15
Private clinic	12,49 ± 1,70	10 – 15
Other	22,55 ± 5,35	6 – 40

The majority of the population chose to transport emergency patients using personal vehicles at 30.03 ± 6.05%, with a low preference for ambulances at 10.01 ± 3.17%. The time for patient transportation to medical facilities ranged from 10 to 60 minutes, with an average of 35.04 ± 14.67 minutes. Only 12.50 ± 1.71% of patients were transported to commune health stations.

Table 5. Reasons for not transporting patients to commune health stations according to public assessment (n=10800)

Reason	Distribution (%)	
	Mean ± SD	Min – max
Lack of medical equipment	17,77 ± 2,09	15 – 25
Lack of professional trust	40,35 ± 8,66	25 – 55
Distance from the emergency location	15,06 ± 3,16	10 – 20
Other	26,82 ± 9,67	1 – 50

The main reason most people believed they should not transport patients to commune health stations was a lack of trust in the professional competence of healthcare personnel at the commune health station.

Table 6. Knowledge of residents regarding prehospital emergency (n=10800)

Knowledge		Quantity (n)	Percentage (%)
Aware of emergency calls	Yes	3634	33,65
	No	3579	33,14
	Not sure	3587	33,20
Knows the emergency call number 115	Yes	3634	33,65
	No	7166	66,35
For trauma and emergency illnesses, knows how long it takes to be taken to the hospital	Less than 1 hour	5255	48,66
	1 - 3 hours	5228	48,41
	Don't know	317	2,94

Knowledge		Quantity (n)	Percentage (%)
Is an ambulance useful for trauma or illness?	Yes	5344	49,48
	Not sure	5456	50,52
Are healthcare personnel on ambulances helpful?	Yes	5404	50,04
	Not sure	5396	49,96
Able to recognize healthcare personnel in emergency situations	Yes	5386	49,87
	Not sure	5414	50,13

Only 33.65% of the population knew about emergency calls, and 33.20% were unsure about emergency calls. 66.35% of the population did not know that the emergency call number is 115. 48.66% of the population believed that emergency patients should be taken to the

hospital in less than 1 hour, while 48.41% believed it should be within 1-3 hours. 49.48% of the population considered ambulances useful, 50.04% believed healthcare personnel were helpful in emergencies, and 49.87% could recognize healthcare personnel.

Table 7. Attitude of residents regarding prehospital emergency (n=10800)

Attitude		Quantity (n)	Percentage (%)
If you call an ambulance, how long do you think it will take for the ambulance to arrive?	5 - 30 minutes	5435	50,32
	31 - 60 minutes	5365	49,68
Is an ambulance the best means to take a patient to the hospital?	Agree	3592	33,26
	Neutral	3605	33,38
	Disagree	3603	33,36
Are healthcare personnel on ambulances sufficient for emergency care?	Agree	3625	33,56
	Neutral	3597	33,31
	Disagree	3578	33,13
Can male healthcare personnel provide emergency care for female patients?	Agree	5417	50,16
	Neutral	5383	49,84
Do emergency department healthcare personnel have better capabilities?	Strongly agree	3598	33,31
	Agree	3573	33,08
	Neutral	3629	33,60

All citizens believed that if you called an ambulance, it took between 5 and 60 minutes to arrive at the scene. Only 33.26% of the population agreed that choosing an ambulance was the best means of transporting patients. However, a significant 33.36% of the population believed that there was a better way to transport patients than using an ambulance. 33.56%

of the population agreed that healthcare personnel on ambulances were sufficient for emergency care, but 33.13% disagreed with this point. The majority of the population agreed that male healthcare personnel could provide emergency care for female patients. Most citizens agreed that emergency department healthcare personnel had better capabilities.



Table 8. Practice of residents regarding prehospital emergency (n=10800)

Practice		Quantity (n)	Percentage (%)
	Carry to the hospital	3633	33,64
If someone in your family is injured or seriously ill, what will you do?	Transport by taxi, private vehicle	3643	33,73
	Call an ambulance	3524	32,63
If a family member is injured or seriously ill outside the house, what will you do?	Carry to the hospital	3538	32,76
	Transport by taxi, private vehicle	3612	33,44
	Call an ambulance	3650	33,80
If a family member needs immediate emergency care, and an ambulance has arrived, will you allow healthcare personnel to take care of them?	Strongly agree	3652	33,81
	Agree	3533	32,71
	Neutral	3615	33,47
If a family member needs immediate emergency care and has arrived at the hospital, do you trust the capabilities of emergency department personnel?	Strongly agree	3667	33,95
	Agree	3551	32,88
	Neutral	3582	33,17

The majority of the population chose to transport emergency patients by taxi, private vehicles, or by carrying the patient to the hospital. Only 32.63% of the population chose to call an ambulance when at home, and 33.80% when outside. Most citizens agreed to trust healthcare personnel on ambulances and emergency department healthcare personnel when the ambulance arrived at the scene or when the patient had been taken to the hospital.

4. DISCUSSION

In the study conducted by Junaid A Razzak et al. (2008), a survey was carried out at 22 rural healthcare facilities and 20 urban healthcare facilities in Pakistan. The majority of the surveyed individuals (98%) within the community were dissatisfied with emergency medical services, and as many as 82% of participants mentioned not calling ambulances for medical emergencies because they believed these services were not functionally suitable within the government system [5].

In our study, according to public assessments, the workload intensity at the 115 Emergency Center was found to be busy, accounting for 49.97%, and

no individuals perceived the work at the 115 Center as leisurely. The workload overload, as assessed by the public, was frequently at 49.51%, with 32.90% expressing dissatisfaction with the Emergency Medical Service (EMS) communication center. The demand for emergency calls was reported to be 49.86%, while the remaining 50.14% varied depending on the situation. The response time of emergency vehicles to the scene, as evaluated by the public, was 30.97 ± 11.28 minutes.

The survey on the knowledge, attitudes, and practices of residents regarding PHE revealed that the proportion of individuals with knowledge about PHE was low. Many did not know about emergency calls and did not appreciate the role of the emergency response team and ambulances in emergency situations. However, a positive aspect was that the majority of the public trusted healthcare professionals when they arrived at the scene or when taken to the hospital.

A study by Patrick Kelly Shanovich et al. (2011) investigated knowledge, attitudes, and practices in emergency healthcare according to the assessment of the Iraqi population. It was found that 93.5% of the population knew that in cases of severe trauma, victims needed to be transported to the hospital within 3 hours, with 81.0% suggesting transportation within

1 hour. Approximately 50.6% of the population evaluated ambulances as providing useful services for patients and trauma victims. However, only 5.03% of the population knew the emergency contact number, and only 3.0% knew the specific emergency contact number. About 60.8% of the population believed that emergency specialists on ambulances were useful, and 49.4% recognized emergency specialists in case of emergencies. Regarding attitudes towards prehospital emergency activities, 50.2% of the population considered it appropriate for ambulances to arrive at the scene within 1 hour, with 41.9% expecting a response time of less than 30 minutes. Only 5.3% experienced ambulance arrival times of less than 5 minutes. The majority (81.1%) agreed that ambulances were suitable for patient transportation to hospitals. About 59.1% believed that ambulance-trained emergency specialists were sufficient for emergency patient care. Healthcare professionals working in emergency departments were considered suitable for patient care by 59.1% of the population. In the assessment of prehospital emergency practices, most individuals preferred going to the hospital (84.8–90%) and chose alternative methods more often than ambulances (98.0–99.2%). In cases where an ambulance had arrived, 77% of the population agreed to allow emergency medical personnel to treat and transport patients, and 73.5% trusted the treatment provided by healthcare professionals at the hospital [6].

5. CONCLUSION

In the survey on knowledge of residents about prehospital emergency, only 33.65% of the population were aware of emergency calls, and 33.20% were unclear about emergency calls. About 49.48% of the population considered ambulances useful, and 50.04% believed healthcare professionals were helpful in emergencies. All respondents believed that if an ambulance was called, it would take 5 to 60 minutes to arrive at the scene. Only 33.26% of the population agreed that choosing an ambulance was the best option for patient transportation. About 33.56% of the

population agreed that emergency medical personnel on ambulances were sufficient for emergency care. In the practical aspects of PHE, the majority of the population chose to transport emergency patients by taxi, personal vehicles, or carrying them to the hospital. Only 32.63% of the population chose to call an ambulance when at home, and 33.80% when outside. The majority of the population expressed trust in healthcare professionals on ambulances and emergency department staff when the ambulance arrived at the scene or when the patient was brought to the hospital.

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