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Assessment of Knowledge, Attitude and Readiness of University of Latvia Students in Performing First Aid Resuscitation Measures

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ABSTRACT

This Study aimed to assess the readiness and competence of students at the University of Latvia in performing resuscitation measures from a first aid perspective. A cross-sectional study was conducted in August – December 2025, a bilingual Likert scale questionnaire collected the data of 301 non-medical student. Concerning Awareness & Knowledge majority of respondents reported their familiarity with CPR as beyond moderate, describing it as extremely familiar (N = 52; 16.56%), very familiar (N = 111; 36.42%). Regarding CPR Training & Willingness to Learn, a high percentage of respondents were unwilling to attend a free CPR course, responding with unlikely (N = 58; 19%) and very unlikely (N = 20; 6%), respectively. Statistical analysis showed the reason why participants would not attend a CPR training course was being too busy (N = 143; 54%). Majority attended CPR training at least once (N = 253; 85%). Most students agreed CPR should be learned by the public (N = 200; 66.2%). Willingness to perform it was higher for family members (N = 162; 56%) than strangers due to fear of harming the victim. Finally, most university students showed strong support for mandatory CPR/AED training (N = 185; 61%), likewise, strong support was shown for the importance of CPR skills due to global insecurities (N = 228; 76%).The study found out that university students showed significant levels of knowledge and skills of CPR; however, they lacked willingness to perform due to fear of legal consequences, lack of knowledge, and insufficient understanding of responsibilities.

Keywords: University students, Resuscitation measures, First aid perspective, CPR, AED

INTRODUCTION

Over the past decade, wars have increased worldwide due to political tensions and disputes (Global Peace Index reveals the highest number of countries engaged in conflict since the Second World War, 2024). What sets this period apart is that Europe has seen two major conflicts for the first time in many years. These include the invasion of Crimea in 2014 and the ongoing war full scale war (since 2022) between Ukraine and Russia. As a result,

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there is renewed interest in how well civilians can perform CPR and other resuscitation methods during crises. The war in Ukraine has made people in Latvia more aware of how quickly crises can affect public safety and healthcare. Because of this, it is important to look at how prepared people in the region are, both geographically and socially, especially as tensions rise. Emergencies outside hospitals can happen anywhere, and a patient's survival often depends on how quickly bystanders act. Basic skills like using an AED, defibrillation, and CPR are key parts of keeping communities safe (Nadine, 2016; Tam & Kwok, 2024). Over the past decade, many studies have looked at how ready and able university students and bystanders are to perform first-aid resuscitation. However, research from around the world shows that people are often not willing or confident to help in real emergencies, no matter how much training they have or how long they have known the skills. Research in China found out that this gap between readiness and knowledge is often due to fear of legal trouble, making mistakes, spreading disease, or doubting their own abilities (Yi et al., 2020). This study aims to better understand how ready and able University of Latvia students are to perform first-aid cardiopulmonary resuscitation. The results to be compared to those found in other countries. This research will help raise awareness and improve strategies for emergency preparedness.

METHODS AND MATERIALS

This cross-sectional study was conducted to assess the readiness, knowledge, and willingness of University of Latvia students to perform cardiopulmonary resuscitation (CPR) and use an automated external defibrillator (AED) as part of first aid. Data was collected between 03.09.2025 and 05.12.2025. A Likert-scale questionnaire was created using Google Forms, and the questions were in English and Latvian. Questionnaire collected the data of 301 non-medical student. The printed questionnaire papers were distributed through in classrooms, seminars, and during breaks to increase the response rate. All respondents were anonymous and entirely voluntary. A brief description of the study was provided at the beginning of the questionnaire, and the participants indicated their consent by continuing with the survey. The questionnaire consisted of 26 items: 6 questions collected age, gender, ethnicity, study program, and faculty, and whether they are EU, Latvian, or non-EU; and 20 main items that consisted of topics divided into self-assessment of awareness, CPR training in the past, willingness or non-willingness to provide CPR, and finally factors that support their answers. To analyse the data, statistical analysis and Spearman's rank correlation were used (SPSS software version 29.0) The Target population for this study consisted of students at the University of Latvia. The inclusion criteria required participation to be enrolled at the University of Latvia, regardless of study program, except medicine. The Descriptive statistical methods were employed to summarize, to present frequencies (N) and percentages (%), which were calculated to summarize the data and responses from sections One to Three. This Study aimed to assess the readiness and competence of students at the University of Latvia in performing resuscitation measures and

first aid perspective based on their self-assessment. The objectives of the study were: 1. To assess the knowledge of University of Latvia students regarding self-assessment their level of awareness and readiness in performing CPR. 2. To identify any gaps in practical & theoretical knowledge connected to the readiness and competence of students at the University of Latvia. 3. To examine students' willingness and to provide resuscitation measures and first aid. 4. To propose ideas to improve first aid and resuscitation measures training programs at the University of Latvia.

RESULTS AND DISCUSSION

Characteristics of Material

301 participants responded to the questionnaire. Not all of the students answered all questions of the questionary that's why total number of who answered definite question can slightly differ. Among these participants, the predominant gender was female (N = 181; 56.8%), followed by males (N = 120; 40.1%) and others (N = 3; 0.9%). The respondents were primarily in their first year (N = 150; 47.3%), followed by the third year (N = 81; 25.6%) and second year (N = 52; 18.6%). Latvian respondents were the predominant responders (N = 217; 75.1%), followed by citizens of countries outside the EU (N = 39; 12.8%) and EU citizens (N = 37; 12.1%). Finally, among these participants, the age difference varied between 17–40+, with the absolute predominant age group being 17–25 (N = 249; 84.4%). The age group 25–30 (N = 20; 6.8%), then 31–35 (N = 10; 3.7%), then comes the age groups 36–40 and 40+ with (N = 8; 2.7%), respectively.

Awareness & Knowledge

Section One delves into the knowledge and awareness of students at the University of Latvia on matters of familiarity and confidence in CPR performance, how many times they practiced or attended CPR courses, and finally their opinions on what the public should learn. Most of the students surveyed rated their familiarity with CPR as beyond moderate, describing it as extremely familiar (N = 52; 16.56%), very familiar (N = 111; 36.42%), and moderately familiar (N = 100; 33.11%). Nevertheless, a significant number of participants described it as slightly familiar (N = 31; 10,26%) and not familiar at all (N = 10; 3%). Moderate number of participants described their confidence in their ability to perform CPR as extremely confident (N = 22; 7,4%), very confident (N = 74; 24,8%), or moderately confident (N = 120; 40.3%). While a few participants responded with slightly confident (N = 54; 18,1%)", and not confident at all (N = 28; 9,4%). Most surveyed students participated in a CPR training course at least once (N = 149; 49%), while those who had never practiced were (N = 47; 15%). The rest varied from practicing a few times, frequently and regularly (N = 86; 28%), (N = 9;3%), (N = 11; 3,7%) respectively. The highest percentage of students reported that the last time they attended CPR training was within the past year (N = 81; 28,8%) or 1–2 years ago (N = 79; 28.1%), while in contrast, few attended between 2–5 years ago (N = 69;24,6%), more than 5 years ago

(N = 21; 7,5%). Overall, a very large proportion of respondents strongly agreed (N = 100; 33.11%) that the public should learn CPR or agreed (N = 100; 33.11%).

Willingness to Perform CPR

Among the respondents, the highest percentage of participants who were willing to perform CPR on a stranger were neutral (N = 138; 43%). A significant number were unwilling (N = 65; 20%) or very unwilling (N = 25; 7.9%) to perform CPR. In contrast, a clear minority of participants expressed their willingness to perform CPR on a stranger (willing: N = 70; 22%; very willing: N = 16; 5%). Furthermore, most participants were willing to perform only chest-compression CPR on strangers (N = 114; 36%). A significant number were very willing (N = 44; 13%), while a considerable number of participants were neutral in this survey item (N = 103; 32%). Among the respondents, some were unwilling to perform CPR at all (N = 28; 8%) or very unwilling (N = 6; 1.9%). Most participants were willing to perform CPR on family members, blood relatives, close friends, and acquaintances, while a small number (N = 9; 3%) showed no interest in performing CPR on anyone.

CPR Training & Willingness to Learn

For section two, on CPR training and willingness to learn, a considerable proportion stated that they would be very likely to attend free CPR training (N = 50; 16.72%) or responded as likely to attend (N = 86; 28.7%), with a notable percentage (N = 85; 28.4%) responding neutral. Similarly, a higher percentage of respondents were unwilling to attend a free CPR course, responding unlikely (N = 58; 19%) and very unlikely (N = 20; 6%), respectively. A considerable number of participants expressed their reason as being too busy (N = 143; 54%) or stated that they do not need it (N = 14; 5%), that it is too difficult to learn (N = 3; 1%), or that they would rather leave it to professionals (N = 51; 19%). However, a considerable number of participants had other reasons, such as personal psychological conditions (N = 19; 7.4%) or that they already knew how to perform it (N = 74; 27.9%). Finally, some participants expressed that they do not have a specific reason for why they would not attend (N = 42; 15%), while a few selected other reasons (N = 12; 4.5%). Part of participants responded that they would be willing to invest a considerable amount of time in CPR training. The majority were willing to spend 60 minutes on a free CPR training course (N = 87; 28.9%), while a significant number of participants were willing to spend 2 hours (N = 58; 19%) and 30 minutes (N = 50; 16%).

Factors Affecting CPR Willingness

The majority of participants agreed that factors that would increase their willingness to perform CPR or use an AED on a stranger include a sense of responsibility (N = 233; 77.7%), the fact that there is no one else to help (N = 210; 70%), feeling empathy (N = 178; 59%), or knowing that delayed

resuscitation can cause permanent brain injury (N = 176; 58%). About situations in which CPR and AED training should be mandatory, results illustrate a high level of agreement among students, indicating overall support for mandatory training for drivers, caregivers, security guards, soldiers, and educational institutions. Likewise, most students agreed (N = 95; 31%) or strongly agreed (N = 90; 30%) that CPR training should be mandatory for university students, while a few disagreed (N = 21; 7%) or strongly disagreed (N = 11; 3.7%). Lack of knowledge among students regarding AED use was identified. Majority were not sure about how to handle an AED (disagree: N = 93; 31% and strongly disagree: N = 59; 19%), while a significant number of participants were neutral (N = 78; 26%). Nevertheless, part of participants agreed (N = 55; 18%) or strongly agreed (N = 14; 4.7%) that they were sure about how to handle an AED. The results demonstrated that the main reasons why participants would not be willing to use an AED were worrying about harming the person (N = 178; 60%) and lack of knowledge (N = 199; 67%). In addition, a significant number of students expressed fear of legal consequences (N = 90; 30%) and a state of psychological stress (N = 107; 36%). More than 70% of participants agreed (agree: N = 135; 45%; strongly agree: N = 93; 31%) that the Civil Protection practical resuscitation study course was useful. Most students agreed (N = 113; 37%) that the course motivated them to refresh CPR knowledge in the future, and a significant number of students strongly agreed (N = 59; 16%), while some participants expressed neutrality on the matter (N = 109; 36%). In the final part of the questionnaire, considering increasing global insecurity, especially the war in Ukraine, the question examines whether such external factors have led to a change in attitude toward CPR skills. Results show predominant agreement on the matter (agree: N = 110; 37% and strongly agree: N = 66; 22%). While a significant number of participants had a neutral stance (N = 72; 24%), limited disagreement existed among the participants (disagree: N = 31; 10% and strongly disagree: N = 20; 6.7%).

DISCUSSION

This study found out that the willingness to perform CPR and use an AED during cardiac arrests in the student community of University of Latvia is quite low. University students represent an effective target group for such training due to their educational background, social connectivity, and capacity to acquire new skills rapidly and their future leading role in society. Numerous studies demonstrate that young adults, including university students, frequently lack sufficient knowledge of CPR and Basic Life Support (BLS), despite recognising the importance of these skills for daily life (Beck et al., 2015; Cruz et al., 2024). Contrary to this data our research showed great familiarity with CPR procedures (N = 263; 86,09%). Absolute majority felt confident in provision of CPR (N = 216; 72,5%). At the same time students expressed low willingness to perform CPR and use AED. 228 students (70,9%) were unwilling or neutral in their readiness to provide CPR on a stranger, these data showing a gap between knowledge and practical realization. It should be stressed that this was absolute majority of students. Thus, framework in community education could help close the gap between knowing what to do and doing it and increase people's willingness

to help (Tam & Kwok, 2024). Here it should be stressed that absolute majority of our respondents passed CPR training courses earlier, those who had never practiced were in absolute minority (N = 47; 15%). Latvia, like other European nations, is striving to enhance community preparedness. Investigating university students' preparedness and confidence can inform future policy and educational initiatives, underscoring the need for research on students' awareness, skills, and readiness in first aid and CPR (Beck et al., 2015; AHA, 2020). Exposure to training is a key factor in CPR readiness. About half of the respondents reported prior CPR training, but most had completed it more than 2 years earlier, suggesting a decline in current skills. Research shows that CPR proficiency decreases without regular practice, underscoring the need for frequent and accessible refresher courses (Huang et al., 2018). Our results concerning willingness to attend voluntary free of charge first aid courser with CPR training were not encouraging – only minority of respondents expressed their readiness to attend (N = 136; 45,42%). In countries where CPR is integrated into secondary education, higher rates of bystander intervention and improved survival outcomes are observed (Ringh et al., 2015). All students at the University of Latvia undergo first aid training including CPR during mandatory Civil Protection study course, what allows us to provide regular assessment of their practical skills. Assessing students' preparedness is essential for designing effective training programs. Key factors include CPR proficiency, frequency of formal training, and willingness to intervene in real emergencies (Bakke et al., 2017). Though since 2025 in Latvia AEDs are accessible in public locations, many students report uncertainty about how to use them or fear causing harm, only small part reported that they now how to handle it (N = 69, 32,7%). Our date correlate with results of other researchers (Bakke et al., 2017). Thus, increasing awareness and improving confidence in AED use is a vital part of CPR education (AHA, 2020). Many studies show that while students are interested in learning CPR, their practical skills are limited without hands-on training (Beck et al., 2015). Our experience of short, very intensive CPR and AED usage refreshment (for majority of the students), or initial for some of them in the framework of mandatory Civil Protection study course is a way how to close a gap between what they know about CPR and what they practically can do. More than 70% of participants agreed that practical resuscitation training as part of Civil Protection study course was useful. This is also a brilliant opportunity to address main factors influencing willingness to provide CPR: misunderstood legal consequences, psychological control, fear to harm the victim and possibilities of infection transfer.

CONCLUSION

The study found out that self-assessment of university students showed significant levels of knowledge and skills of CPR; however, they lacked willingness to perform due to fear of legal consequences, lack of knowledge, and insufficient understanding of responsibilities. The absence of systematic first aid courses for higher education institutions appeared to contribute to the gap between knowledge of skills and willingness to perform in real-life situations.

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