

KNOWLEDGE OF HEALTH SCIENCE STUDENTS ABOUT EMERGENCY MEDICAL CARE WHEN CHOKING

^aLigita GUKAUSKIENĖ, ^bSimona SATKAUSKĖ

^a Panevėžio kolegija/State Higher Education Institution, Lithuania,

^bPublic institution „Ambulance Service“, Panevėžys department, Lithuania

Abstract. The essence of the provision of emergency medical care consists of: prevention of diseases and accidents, readiness to act in the event of an accident or illness, rapid response and treatment. The essence of the provision of all emergency medical care is to reduce the number of deaths and disabilities. The conducted study showed that only a small percentage of students of the faculty of the health sciences can adequately provide emergency medical care in case of the choking. However, students know what to do during partial or complete choking, and also know the main ways to help in case of the choking. The students also identified the consequences of choking caused by the wrong provision of the emergency care.

Keywords: elderly patients, stress experienced, medical institution, consequences

INTRODUCTION

Every day it is possible to face unexpected situations that can claim human life. Dinner can end in death if, after choking on food or drink, emergency medical care is not properly provided. Only with the correct provision of emergency care by choking can further health problems be avoided. There are many unexpected, and often even very unpredictable situations in everyday life, when a person's life is in danger, and only a very short period of time is devoted to preserving it. One of such situations is choking, from which, according to the data of the Public Health Bureau of Šiauliai District Municipality in 2020, about 3,800 people die every year. A study by Igarachi et al. (2022) revealed that choking was the third-highest cause of accidental deaths in the United States in 2018 and the second-highest in Japan in 2019. Japan suffered 8000 deaths due to choking, which was about twice as many as in the United States. What should be done, how to help the choked, when and how to purposefully provide emergency medical care with choking, so that we do not harm by performing actions, but help to save a life and avoid further consequences of a health disorder, not everyone knows, therefore, there are not many people dying from choking.

A study conducted by Igarachi et al. (2022) states that choking quickly leads to cardiac arrest and airway obstruction, it is very important that outsiders effectively remove foreign bodies during choking. The aforementioned author and his colleagues also revealed that the verbal instructions of the dispatchers during the call in communication with the person calling for help improved the vital functions of the person, thanks to which a more rapid emergency medical care was provided until the arrival of a specialized ambulance to the patient. This aspect reveals that the vast majority cannot adequately provide assistance in choking without instructions from the dispatcher.

The object of the study: the knowledge of the health science students about the emergency medical care when choking.

The goal of the study: to determine the knowledge of the health science students about the emergency medical care when choking.

The tasks of the study:

1. To identify the most important actions performed by students in providing emergency medical care during choking.
2. To identify the first action choking on an adult.
3. To identify the consequences of choking caused by the incorrect provision of emergency care.

RESEARCH MATERIAL AND METHODS

The search for sources of the information was carried out in EBSCO, PubMed and other databases. The study was conducted using a quantitative research method, the tool of which is a questionnaire survey. The quantitative study was carried out, which took place in March 2023. The survey took place at the Faculty of Health Sciences of College X, indirectly communicating with students. The survey questionnaire was placed on the [apklausa.lt](https://www.apklausa.lt) website, and the survey link was sent to all students of health sciences at College X by e-mail. The questionnaire was anonymous, so the data collected is reliable. 162 students participated in the survey.

DISCUSSION AND RESULTS

The survey on the knowledge of emergency medical care in choking involved students from the Faculty of Health Sciences of College X. The study was dominated by women (80 %), while men accounted for 20%. The age of the respondents was distributed as follows: by the age of 25, 48 % had participated, between the ages of 26 and 31 was 26 %, and the lowest proportion was more than 42 years old. When explaining which course students study in, respondents were distributed fairly evenly, i.e. about 30 %. Next, there was interest in which lectures, students learned the most about emergency medical care during choking. The survey data showed that the majority (64 %) of the students learned the most about choking assistance in first aid lectures, only 21 % in emergency medical care, 11 % during anatomy and the smallest part (4 %) of the students during nursing procedures.

Students were also asked what is the choking. The results showed that almost everyone answered (89 %) correctly that it occurs when food or other foreign body enters the mouth not into the digestive tract, but into the respiratory tract, the least respondents (7 %) said that choking occurs when a foreign body gets stuck in the throat and the smallest part (4 %) of the students chose an answer that names choking when a person is unable to inspiration because the foreign body is unscrupulous.

When asked what is most important in providing emergency medical care after choking, respondents were divided as follows: the majority (78 %) chose the answer option that it is very important to call for emergency medical care, and only 2% of those surveyed chose the option that they doubt and do not important, the smallest part (1 %) of the respondents consisted of the answer that it does not at all important. Trying to pull a foreign body out of the respiratory tract is very important for a third part (31 %) of the respondents, 28 % important, 33 % doubt it. And 3 % said it doesn't important and 5 % have chosen the answer option that it doesn't at all important. As soon as hitting the crotch with the palm of their hand, the vast majority (42 %) of the respondents chose to be important, a third (32 %) part believed it is very important, a fifth (21 %) part were doubt that it is important in providing assistance, and the smallest part (2 %) believed that it does not at all important. To promote quality coughing, the largest part, almost half (49 %) chose that it was very important, a third (34 %) part that it is important, less than a quarter (15 %) part doubt it, just 1 % chose the answer option, said that it does not at all important. To give a drink, the majority (40%) of the respondents doubt that it will help the choked, a quarter (25 %) part said that it does not at all important, about a fifth (17 %) part of the respondents thought it is important to give a drink in the form of emergency medical care when choking. About a tenth (12 %) part believed it doesn't important, and the smallest part (7 %) chose the answer that it's very important.

Timely provision of assistance when a person begins to blueing is very important, this answer option was chosen by the majority (84 %) of the respondents, and less than a fifth (14 %) part that it is simply important, the smallest part (1 %) of the respondents believed that it does not at all important, it does not important and doubted the importance of the providing emergency care when a person begins to blueing (see Table 1).

Table 1

The most important actions performed when providing emergency medical care during choking

Assertions	Not at all important	Not important	Doubt	Important	Very important
Timely provide assistance when a person begins to blueing	1%	1%	1%	14%	84%
Give to drink water	25%	12%	40%	17%	7%
Encourage high-quality coughing	1%	1%	15%	34%	49%
Hitting the crotch with your palm as soon as possible	2%	3%	21%	42%	32%
Trying to pull a foreign body out of the respiratory tract	5%	3%	33%	28%	31%
Call for emergency medical care	1%	1%	1%	19%	78%

In the question of whether health science students could properly provide first aid for choking, the answers were distributed fairly evenly. The vast majority (42 %) part of the respondents almost half of those surveyed believed they could provide help, less than a third (27 %) part said they could but would be afraid, 26 % doubted they could provide assistance, and the smallest part (5 %) of the students would not be able to provide first aid to a choked adult.

Dunne et al. (2022) argue that choking is an important cause of preventable mortality. The most common help provided when choking is the Heimlich maneuver, back strokes and thoracic clicks. Recently, however, as an alternative, pump-based devices have been developed and began to be used to remove foreign bodies from the respiratory tract. Therefore, a question was asked to find out do students know what the first act is performed when an adult chokes. Nearly half (47 %) part of those surveyed believed that a Heimlich maneuver should be performed, about a quarter (22 %) should stimulate coughing, a fifth (19 %) part would hit the crotch 5 times with the palm of their hand, and about a tenth (12 %) part would call for emergency medical care (see Figure 1).

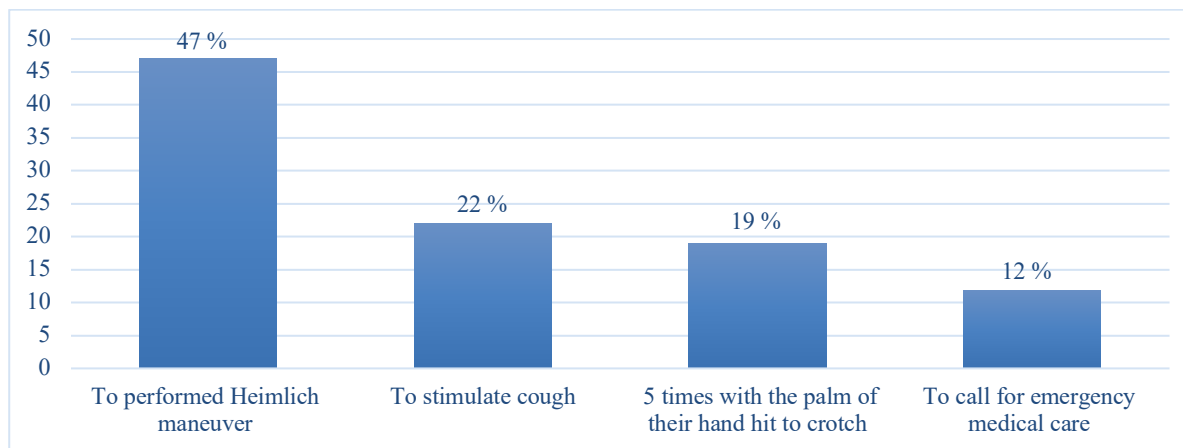


Figure 1. **The first action when choking in an adult**

Rodriguez et al. (2022) emphasized that the Heimlich maneuver is a first aid procedure for the treatment of foreign body obstruction of the upper respiratory tract. This skill is usually taught in basic life support and advanced cardiac life support lectures, but it is never given as much attention as basic of the initial resuscitation. In the visual question, which presented pictures with various performance techniques, it was asked which of the pictures demonstrated the Heimlich maneuver. In this question, we wanted to find out do the students knew what this maneuver looks like. The answers were encourage, as the majority (58 %) of the students chose correctly answer.

Distinguishing partial choking from complete choking is very important because of the further health problems. During partial choking, the foreign body reduces the respiratory tract, but does not completely block them, during complete choking, the upper respiratory tract are fully closed. Most often, the foreign body gets stuck at the vocal folds, leaving a partial entrance to the trachea, or is smaller than the opening limited by the vocal folds and enters the trachea, partially narrowing its lumen. In this case, a person can inspire, cough, and speak, but due to narrowed respiratory tract and coughing, breathing is abnormal, and develops respiratory tract underweight. In this case that the foreign body moves towards the vocal folds, partial choking can become complete (Strazdinienė, 2021).

Therefore, a question was asked about recognizing partial choking. The vast majority (68 %) of the respondents made the right choice, and argued that with partial choking, a person can talk, cough, his face is reddened, 30 % of the students chose that the affected person turns blue, tries to show with gestures that he is choked. The smallest part (2 %) chose the answer option, so that the injured person does not speak, does not cough (see Figure 2).

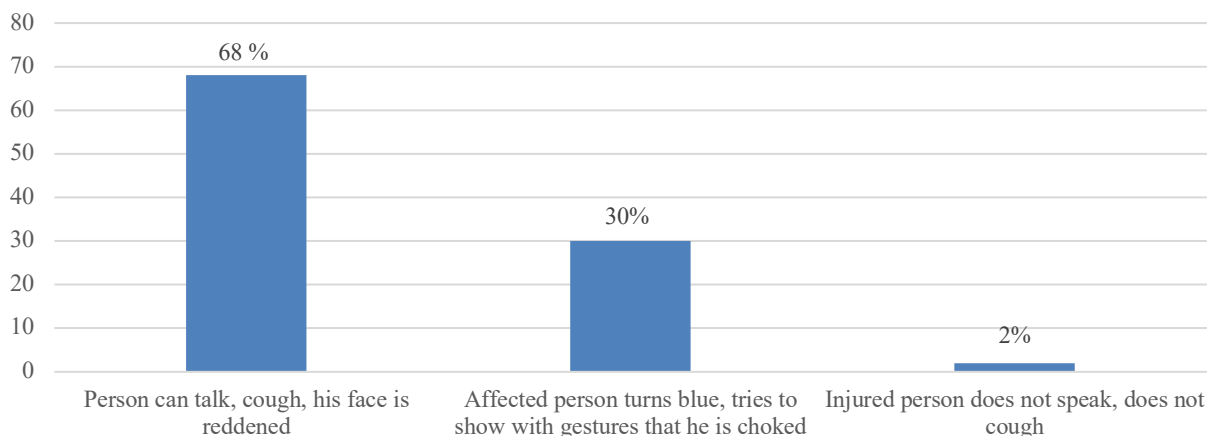


Figure 2. **Partial choking recognition**

Next, health science students were asked what not to do in case of partial choking. Respondents were fairly evenly distributed on the first statement that the Heimlich maneuver cannot be performed in the presence of partial choking. The majority (28 %) of the students believed that it is possible and necessary, a quarter (25 %) doubted that it is important, less than a fifth (16 %) part believed that it is strictly forbidden. The majority (42 %) chose not to start the initial resuscitation, one third (35 %) part doubted it should not be done, about one tenth (11 %) part said it could be done, and the smallest (6 %) part thought it's not important. In case of partial choking, the majority (41 %) of the students believed that it is necessary to stimulate cough, one third (33 %) part said that it is possible, one fifth (20 %) doubted it, 5 % said that it is strictly not possible and the smallest part (2 %) chose the answer option that it does not important. The next statement that you should not try to remove the foreign body with your fingers was distributed as follows: the majority (36%) of the students believed that it is strictly forbidden, 34 % doubted it, about a quarter (23 %) said that it is possible, 3 % that it is necessary and only 2 % thought it doesn't important. The statement that in the case of the partial choking it

is not allowed to drink was distributed as follows: the majority (42 %) of the respondents believed that it is strictly forbidden, 40 % doubted it, about one tenth (13 %) part believed that it is possible to give drink, only 3% considered it necessary, and the smallest part (2 %) said it is not important. The last statement was that you can't hit the crotch with your palm. Almost one third of the students divided themselves evenly into different answer options. 32% doubted this action, 27% believed that it is possible to do this, 24 % said that it is strictly forbidden, about one tenth (12%) part believed that it is necessary, and the smallest part (5%) believed that it does not important.

If a person who has choked is conscious, can cough or try to speak, he is not hit with the palm of his hand to the crotch, which is usually done to a choked person, but is told to cough effectively and often so that the foreign body is removed from the respiratory tract. Cough is also called the most benign way to remove a foreign body. Otherwise, choking will not help, but harm. In case of complete choking, if you see that a person is not breathe, the complexion begins to change, first of all, you should perform 5 hit with the palm of your hand to the crotch (Pranskūnas et al., 2017). Health science students were asked what kind of emergency care is provided in case of complete choking. The majority (76 %) of students chose to perform the Heimlich maneuver, about a tenth (8 %) part said that hit should be made with the palm of the hand to the crotch, 5 % chose to remove a foreign body, 6 % chose to perform initial resuscitation, and the smallest part (5 %) chose to stimulate coughing.

Williams et al. (2014) argues that the effects after choking can be divided into small and large. Minor effects: lack of oxygen in the arteries, bradycardia, laryngospasm, bronchospasm, neurological abnormalities and death. Significant consequences are laryngeal edema, pneumothorax and cardiac arrest. As a result of recurrent irritation of the alveolar epithelium develops edema, which can be supplemented by a secondary bacterial infection. Prolonged inflammation leads to the formation of an abscess, recurrent pneumonia, bronchoectasis and narrowing of the bronchi. The next question was to find out what further health problems are failure to provide timely or not provide emergency medical care in case of choking.

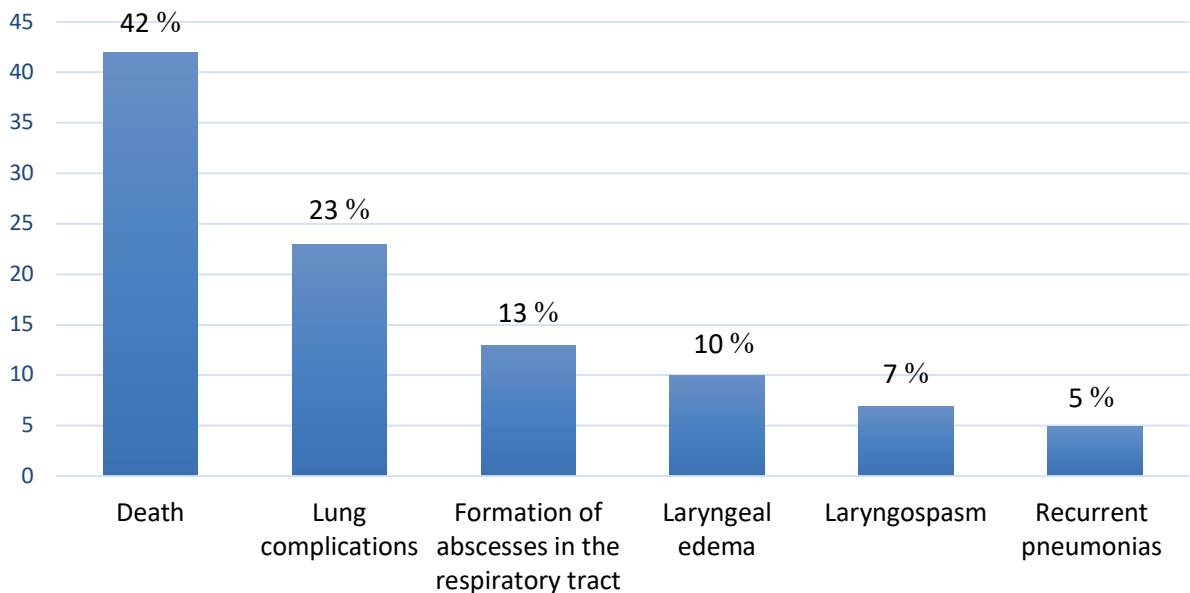


Figure 3. **The most common consequences of not providing timely assistance in case of choking**

The vast majority (42 %) believed it is death, about a quarter (23 %) of the respondents of lung complications. 13 % respondents chose that a common consequence of a health problem is the formation of abscesses in the respiratory tract, 10 % chose an answer that says it is laryngeal edema, 7 % laryngospasm, and the smallest part (5 %) of respondents said that these are recurrent pneumonias (see Figure 3).

CONCLUSIONS

- Elderly patients named the following causes of stress experienced in a medical institution: changes in medical institutions, especially during quarantine, too little communication of medical personnel with the patient and long queues for specialist doctors.
- The consequences of stress caused by elderly patients, according to the respondents, were: impaired work of the heart, increased arterial blood pressure, impaired blood glucose levels and disorders of the digestive system (reflux, increased acidity of the stomach, lack of appetite).
- During the study, the following ways of coping with stress were identified: physical activity, an objective approach to the situation, an activity with pleasant activities and sedatives or antidepressants, as well as herbal and homeopathic preparations.

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