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## MARTIAL ARTS SCIENCE

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# Evaluation of self-defence training in the Czech Emergency Medical Service

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**Key words:** medical staff, conflict cycle, training of medical staff, specific fitness exercises

### Abstract

**Background.** The increase in aggressive behaviour towards crews and the potential danger they may be in is seen as a significant current problem in the Emergency Medical Service (EMS).

**Aim.** This study relates to an analysis and evaluation of the self-defence needs of EMS medical staff.

**Methods.** The design of the research is descriptive, qualitative and quantitative. The research sample was deliberately chosen. Direct and indirect observation over a period of five months was applied to the data collection methods. In addition, questionnaires were used to investigate the attitude of the profession to self-defence, and unstructured interviews were conducted.

**Results.** The theoretical results reflect the creation of an actual plan for EMS training, an interest in education and in self-defence training. The practical results include specific findings and recommendations for practice learning EMS management for the learning process can increase the efficiency of self-defence training for EMS staff.

**Conclusion.** The most important thing is to include self-defence training in the current educational profile of the EMS.

### Introduction

The study presents a new view on solving conflict situations in the provision of health care. The authors [Kowalenko, Walters, Khare 2005; Gillespie *et al.* 2010] reported that medical staff have been increasingly confronted with aggressive patients in recent years. This has led to the formation of different methods of self-defence training that would provide medical staff with more protection [Honzak 1999; Szkanderova, Jarocova 2008; Dolezal, Lapka 2011]. Based on the analysis of both theoretical and practical self-defence techniques, we created a new approach to deal with aggressive patients. The conceptual plan chosen as the subject of this article, is based on the theoretical and practical knowledge of innovative self-defence [Cooper 1989; Wagner 2006, 2008]. In this work, it is theoretical self-defence and practical knowledge: which help to resolve a conflict situation. Self-defence can involve non-verbal, verbal, and physical actions. Physical defence is usually the last option in the process. Self-defence leads to a level of personal safety. Personal safety is a feeling based on self-defence training. The study is based on

threats to the medical staff, the attacks and the attackers [Krbek 2012].

### Health care workers *vis a vis* self-defence (personal safety)

Self-defence in health care is considered to be a fringe issue and not much attention is paid to it. With the emergence of a crisis situation a fringe issue becomes a primary issue as it affects the health or life of medical staff. Since 2001, the theme of “Aggression in health care” has been identified as the current problem by the International Council of Nurses (ICN). Unfortunately, it is only in the past four years that systematic measures to address this issue have begun to be designed [Dolezal, Lapka 2011; Reguli 2013]. The Legal Department of the Czech Medical Chamber is heavily involved in solving the problem of aggression in the workplace by patients. It draws attention to some conflict situations, for example: the escape of a patient from the hospital; patients discharging themselves against medical advice; patients threatening or posing a threat to medical staff

and their surroundings; patients stalking doctors and paramedics [Mach 2014].

The training of health professionals in the field of self-defence is complicated. Where medical staffs are interested they receive self-defence training outside working hours. Therefore, everything depends on the level of their interest in, and respect for their own personal safety.

Self-defence for medical staff is a specific kind of professional self-defence. The primary objective of the medical staff is to provide qualified medical assistance. However, in the exercise of their professional duties they are confronted with critical situations that must be solved. Therefore, this kind of self-defence is specific [Bartik, Slizik, Reguli 2007]. The actual saving of life is stressful and in combination with aggression, and verbal and physical attacks results in an extreme situation. Martial arts even just as a self-defence system influence individuals comprehensively, i.e. their mental health, morals and the value of life [Cynarski, Obodynski 2007]. It is not just the mere learning of techniques, but also an understanding of the course of a personal safety situation that matters.

For this reason, it is necessary to combine modern knowledge of self-defence as described by the conflict cycle and Force ladder [Wagner 2006], and the Cooper scale [Cooper 1989] for example, to map the needs of, and threats to medical staff and their means of defence. From these findings it is possible to create a personal safety approach, directly applicable to medical staff.

The chosen self-defence training plan includes the basic elements of self-defence and is extended to encompass those special features resulting from the profession of a paramedic. This approach was applied in practice, and was verified during a six-month training period. Self-defence for medical staff is a complex interaction influencing the health professional both in the theoretical and practical fields. It deals with the conflict cycle and its phases, in combination with real self-defence exercises. This allows the application of techniques in a real personal risk situation, to be carefully targeted in a training session.

## Methods

The study is designed as a descriptive, qualitative and quantitative. The quantitative part provides statisti-

cal data describing assaults on medical staff in terms of the circumstances of the attack, the attack itself and the attacker. This quantitative knowledge comes from prior research work done on the basis of mapping threats to the EMS [Krbek 2012]. The qualitative part is focused on analysis and comparison of existing methods of self-defence for health staff and the evaluation of statements by EMS health professionals using encoding. The research sample was chosen intentionally. Respondents were selected from the EMS and the number of respondents was 12 – 4 doctors and 8 EMS paramedics (Table 1).

Thanks to the six-month collaboration the observation was thorough and detailed. The respondents were monitored during training exercises, as well as during the performance of their professional duties in the field.

## Methods applied to data collection

Three data collection methods were applied. – a questionnaire, participant and indirect observation, and interviews. The particular methods are described and the tools were applied during the course.

### 1. Questionnaire

Two types of non-standardized questionnaire were applied. The first questionnaire was aimed at evaluating the course in terms of content, organization and contribution to the self-defence practice. Evaluation took place during and at the end of the course. The questionnaire was in three parts: I. Full-time course contents; II. Teaching and the organization of the teaching, and III. Contribution to learning, and contained 13 questions on the scale (excellent, very good, good, poor and very poor). The second questionnaire assessed participants' attitudes towards personal safety and further self-defence training. It was composed of eight questions. Two of the questions were on a scale, using the scale (excellent, very good, good, satisfactory, and unsatisfactory), then 3 dichotomous questions, extended by additional open questions, were incorporated into the questionnaire. Finally, the remaining three questions were open. The basic sample was chosen deliberately and included all participants.

Table 1. Research sample

|              | Sex   | Number | Age range     | Average age | Standard deviation |
|--------------|-------|--------|---------------|-------------|--------------------|
|              | Men   | 7      | 25 - 44 years | 32.86       | 6.44               |
|              | Women | 5      | 26 - 55 years | 37.60       | 12.05              |
| <b>Total</b> |       | 12     | 25 - 55 years | 34.83       | 9.02               |

## 2. Participant and indirect observation

Two types of observation were used. In participant observation the research team observed the subjects and collected data and also participated in the natural course of evolving situations (participation in EMS transport and EMS training). In indirect observation the research team minimized interaction with the observed objects and thus obtained information about the behaviour and actions of the observed objectives (their training).

## 3. Unstructured interviews

Interviews were conducted at the EMS station with five respondents (2 doctors, 3 paramedics). The questions arose in response to the context and were asked in a naturally ongoing interaction.

## Data analysis methods

The qualitative data was analysed by applying a three-stage encoding system: open, axial and selective [Hendl 2005]. The respondents' answers were transcribed on a single sheet by the research team. The research team subsequently divided the text into units that were of significance. Each unit was assigned a code that conveyed the meaning of the unit and differentiated it from the others. At the end of the three-stage encoding stage a series of categories were created, which are the result of the whole encoding process. From the three-stage method of encoding 7 categories were created: 1. Overall evaluation of the course, 2. Approach of teachers, 3. Learning outcomes, 4. The training methodology, 5. Preparing for a conflict situation, 6. Fitness training, 7. The attractiveness of the course.

## Results

The results of the study are twofold: theoretical and practical. From the results of the theoretical conclusion it is evident that the study provides new insights into the field of self-defence for EMS medical staff as follows: Creating their own theoretical plan for self-defence training for EMS medical staff generally: Creating a methodical series of training exercises, and basic self-defence techniques with video support: Developing five model situations which demonstrate the basic tactical principles: and finally, the establishment of a complete e-learning programme which is fully available to medical staff so that they can revise individual techniques and theoretical knowledge [ZZS]MK 2013]. Other findings of the theoretical results dealt with the circumstances of an attack (Figure 1), the attack and the attacker (Figure 2). Figure 1 shows an overview of

the basic circumstances of an attack. As can be seen, verbal assaults in the form of insults and threats prevail over physical assaults. The reasons for the attack are drugs and alcohol. This is typical of Friday and Saturday evenings when people linger in bars and clubs. The attacks are not dependent on season. Figure 2 refers to the attack and the attacker. A physical attack takes the form of pushing, or, for example grasping clothing. The attacker carries out attacks in the upper zone of low intensity due to their uncoordinated movement resulting from the use of alcohol and drugs. The age of attackers ranges from 26 to 35. In cases where the attacker is not under the influence of alcohol or drugs, they are often the patients or their relatives.

Other findings from the theoretical results mention the interest and ability of EMS medical staff to pursue education and training in self-defence. They also point out their responsible attitude and awareness of the potential risks that arise in the exercise of their professional duties.

The graphic representation of Figure 3 shows that categories 1. *Overall evaluation of the course*, 2. *Approach of teachers* and 7. *The attractiveness of the course* is logically connected and interdependent. These categories are characterized by a positive attitude both from the participants and from the trainers. In this way interaction between participants and lecturers was achieved. Categories; 3. *Learning outcomes*, 4. *The training methodology*, and 5. *Preparing for a conflict situation* highlight the teaching method whereby the chosen methodology allowed skills to be taught which would prepare them for conflict situations. There is a relationship between Category 5 *Preparing for a conflict situation* and 6. *Fitness training* which records the amount of course participants' fitness training that served as preparation for the encounter. All these relationships evaluate the approach and feelings of the EMS professionals attending the course. From the above findings it can be stated that the chosen methods and procedures were correct. This statement reinforces the training programme chosen for the self-defence training of EMS medical staff.

One practical and very important output from this study is the inclusion of a plan for a teaching at the Faculty of Medicine at Masaryk University. The Faculty of Medicine offers a Bachelor's degree programme in the field of Paramedics. In this field personal safety plays an important role in the comprehensive two term training of future paramedics. We consider this step as one of the most important outcomes of the study since both theoretical and practical knowledge are brought into practice. The plan for the training of EMS professionals which has resulted from this study has led to other healthcare workers approaching health institutions in Hradec Kralove, Ceske Budejovice for training.

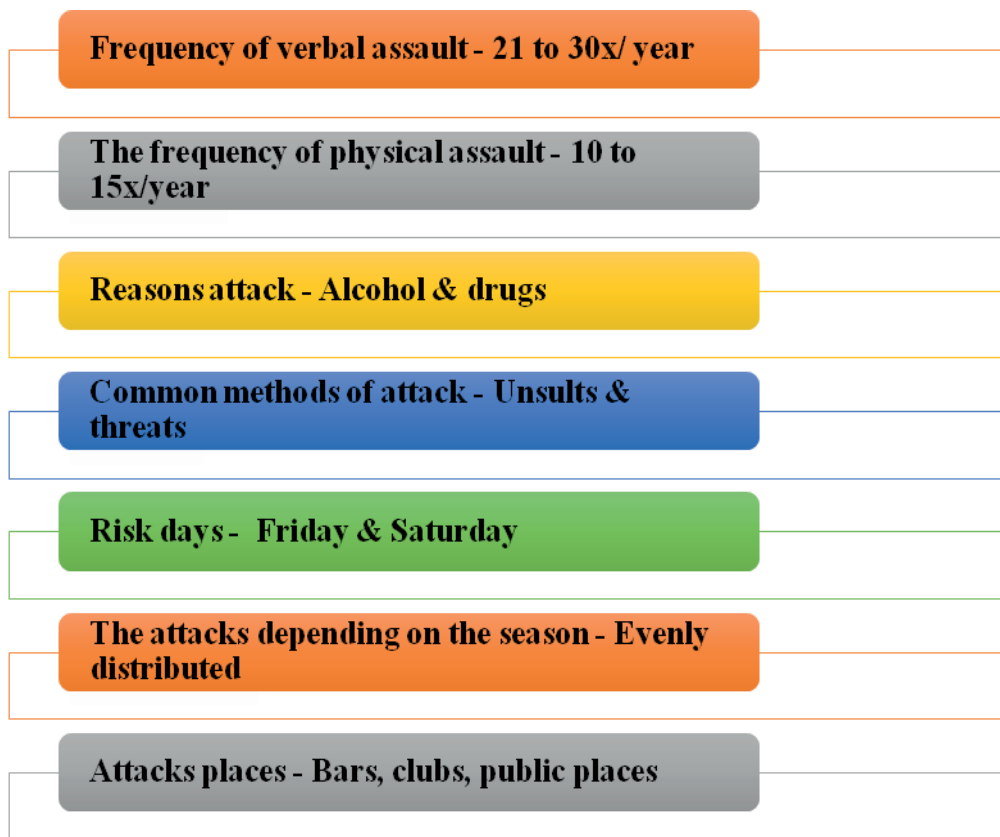


Figure 1. The circumstances of the attack

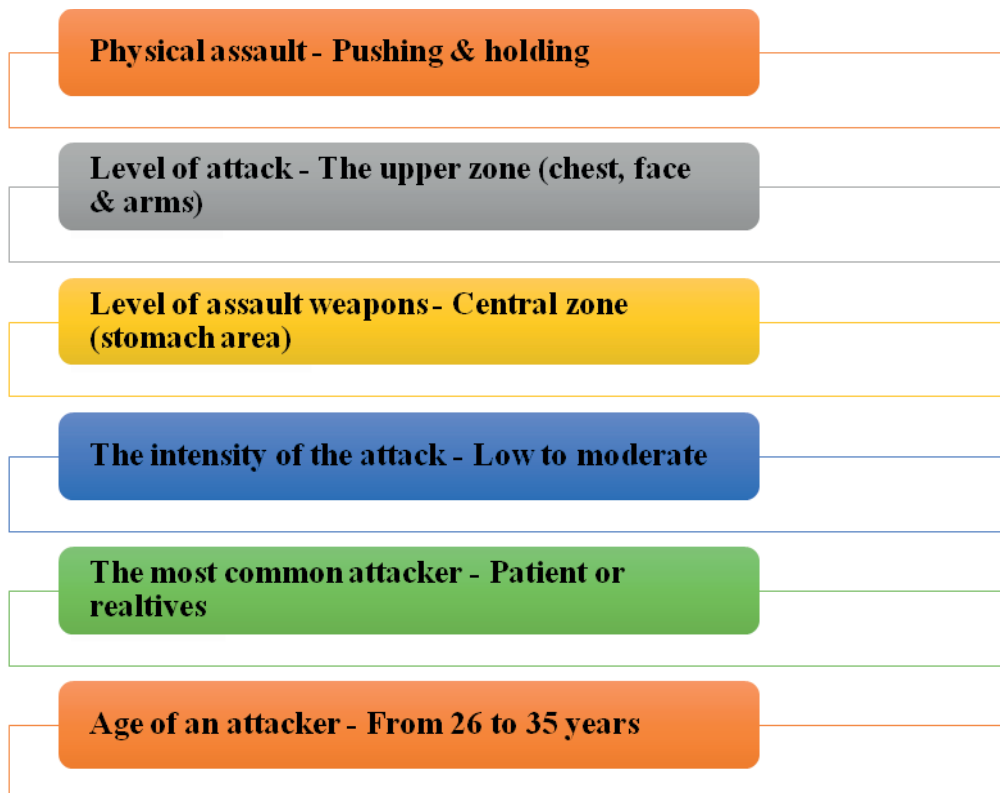


Figure 2. The attack and the attacker

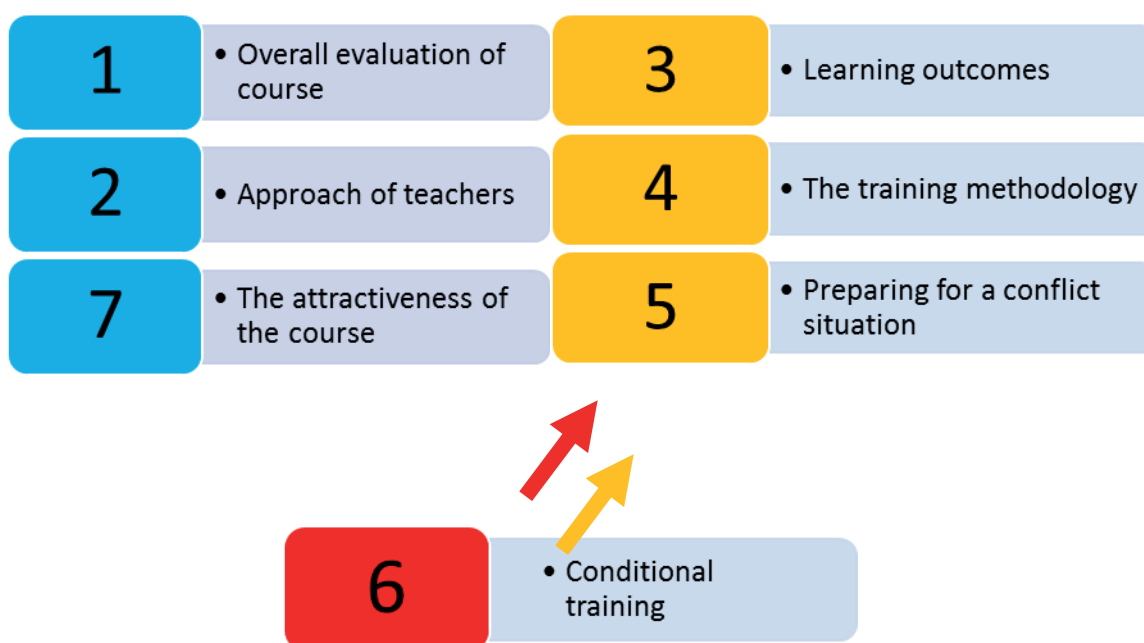


Figure 3. Results of three-stage coding

## Discussion

The study points to the topicality of the issue of aggression in health care and the need for medical staff to be trained in self-defence. Despite the challenging profession, the results show that medical staff are willing and able to learn self-defence. In parallel, the study shows that the resulting theoretical and practical approaches towards self-defence [Honzak 1999; Szkanterova, Jarocová 2008; Dolezal, Lapka 2011] are inadequate. The authors discuss the solution to conflict situations by medical staff only in respect of doctors, psychologists or self-defence instructors. It was only ever a partial study.

The research team therefore first mapped the needs of the EMS and subsequently compiled a plan for self-defence training. Thanks to this, the study presents a realistic view of self-defence training for the EMS, both in terms of the theory and practical skills. The findings obtained by this study were being regularly tested in practice. It is expected that there will be a longitudinal effect from this training. The EMS should be evaluated after a few months or years.

## Conclusions

From the above facts, we can conclude that the knowledge acquired by the participants spread awareness about the issue of personal safety in health care. The chosen methodology and theoretical knowledge are based on current knowledge, modern self-defence approaches and the needs of the EMS [Gillespie *et al.* 2013; Camerino, Estryin-Behar, Conway 2008]. Thanks to this study we can see that the need for EMS professionals to defend

themselves is both especially important and desirable. The lecturers complied with the chosen training methodology i.e. all created procedures which could be applied in the training.

The course participants were interested in continuing their education in this field. They said that they wanted to develop and improve further the knowledge and skills they had already acquired. This finding is considered to be important. Indeed, they fully realized that it is absolutely necessary to practise the self-defence skill they have acquired. Without regular practice it is not possible to fully apply the self-defence techniques. This finding suggests that paramedics must be constantly supported and educated in this field.

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## Ocena potrzeby kursów samoobrony w ratownictwie medycznym

**Słowa kluczowe:** personel medyczny, cykl konfliktów, szkolenie personelu medycznego, konkretne ćwiczenia sprawnościowe

### Abstrakt

Tło. Wzrastająca agresywność w opiece zdrowotnej jest aktualnym problemem nie tylko w Czechach, ale również na świecie. Personel medyczny staje się grupą ryzyka.

Cel pracy. Badanie dotyczy analizy i oceny zastosowania kursów samoobrony przez personel medyczny Pogotowia Ratunkowego (PR).

Metody. Projekt badań ma charakter opisowy, jakościowy i ilościowy. Próba badawcza została wybrana celowo. W czasie pięciu miesięcy, w metodach zbierania danych zastosowano bezpośrednią i pośrednią obserwację. Ponadto zastosowano kwestionariusze badające nastawienie grup zawodowych do samoobrony. Pod koniec szkolenia przeprowadzono nie-strukturalne wywiady. W jakościowej części badania dowody zanalizowano metodą kodowania w trzech etapach. Część ilościowa była skupiona na określaniu zagrożenia, ogólnych informacjach i okolicznościach ataku. Zebrane wyniki były oceniane pod względem statystyki.

Wyniki. Zgromadzono dwa rodzaje wyników: teoretyczne i praktyczne. Wyniki teoretyczne odzwierciedlają tworzenie rzeczywistej koncepcji szkolenia dla pracowników Pogotowia Ratunkowego, zainteresowania kształceniem i szkoleniami z samoobrony oraz pośredniego wsparcia ze strony pracodawcy. Praktyczne wyniki obejmują szczegółowe ustalenia i zalecenia szkoleń. Samoobrona dla ratowników z PR jest korzystna dla ich edukacji. Samoobrona może zwiększyć efektywność edukacji poprzez wsparcie zarządzaniem PR. Najważniejszym punktem jest umieszczenie szkolenia samoobrony w bieżącym programie PR.

Wnioski. Dzięki badaniu zgromadzone wyniki mogłyby być włączone do procesu edukacyjnego na paramedycznym kierunku studiów na Wydziale Lekarskim Uniwersytetu Masaryka. Do tej pory, można przytoczyć wiele przykładów zastosowania samoobrony przez pracowników Pogotowia Ratunkowego. Ponadto stworzony pomysł został zastosowany w dziedzinie edukacji przez instytucje opieki zdrowotnej m.in. w miejscowościach: Hradec Kralove, Czeskie Budziejowice i przez Policję Republiki Czeskiej.