

How is an unethical leadership born in critical care teams? Stress coping strategies analysis

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Medical Studies

DOI: <https://doi.org/10.5114/ms/209185>

Key words: emergency medicine, ethics, leadership, stress coping, critical care.

Abstract

Introduction: Leadership is directly connected with proper communication, interpersonal collaboration, as well as noticing and resolving problems. Therefore, not only are knowledge and abilities important but also non-technical skills are crucial. Current data suggest that physicians and paramedics differ in their critical care team management patterns. Doctors tend to act unethically more often than do paramedics.

Aim of the research: The aim of this study was to find differences in stress coping strategies among team leaders, which could be responsible for unethical leadership patterns (understood as rushing others, shouting, or cursing).

Material and methods: The survey was addressed to physicians and paramedics (who claimed to be leaders in their critical care teams). It consisted of the authors' self-designed questionnaire concerning non-technical aspects of leadership and the Mini-COPE questionnaire. A total of 75 replies were obtained.

Results and conclusions: The highest scores (for both groups) were obtained in the 'Active coping' and 'Planning' subscales (which are elements of 'active strategy group') as well as 'Acceptance'. Results in 'Denial', 'Substance use', 'Turning into religion', and 'Discontinuation of action' subscales were generally low among both professions. Active coping strategies correlate with more ethical and composed leadership. Physicians present emotional discharge and blaming oneself more often than paramedics do. The higher the level of active coping, the more ethical and composed the leadership. Emotional discharge and blaming oneself (higher level among physicians) may explain the differences in their leadership patterns. Unethical behaviour of team leaders could be their stress reduction strategy.

Introduction

Leadership in critical care teams is not limited to making decisions and issuing orders. Team leaders are responsible for the whole team; they need to guide team members and coordinate numerous actions. Leading is directly connected with proper communication, interpersonal collaboration, as well as noticing and resolving problems. Therefore, not only are knowledge and abilities important, but also non-technical skills are crucial.

Excess of stress in critical care is connected with worse performance during emergency situations [1–3]. It also reduces the sense of job satisfaction, which contributes to job burnout [4]. Moreover, leaders' behaviour influences members during critical care simulation scenarios [5].

Ethical leaders' behaviour should be beneficial for all stakeholders including followers, the organisation, and society. Leaders are obliged to avoid harmful practices, as well [6]. In this context, verbal pressure (rushing others, shouting, and cursing) should not be accepted while leading. Such practices are elements of unethical leadership patterns.

There is a study showing how team members and leaders notice leadership in their critical care teams. One of the most interesting findings concerned differences between paramedics (as team leaders in pre-hospital emergency care) and physicians (as leaders in hospitals). According to team members, such phenomena as rushing, shouting, and cursing are present more often in hospital teams [7].

Aim of the research

Thus, the aim of this study was to find differences in stress coping strategies among team leaders, which could be responsible for the unethical leadership patterns (understood as rushing others, shouting or cursing).

Material and methods

An on-line survey was sent via social media groups and channels to Polish medical professionals who are critical care team leaders. Paramedics working in pre-hospital emergency care and physicians working in 3 types of hospital departments were included: Anaes-

thesciology and Intensive Care Unit (ICU), Emergency Department (ED), and other hospital departments with high dependency units/areas (HDU – neurological, cardiological, post-operative). All participants claimed to be mainly leaders in their teams during critical situations (examples were given: cardiac arrest, acute seizures, acute respiratory distress, life-threatening bleeding). Those who did not declare being a critical care team leader were excluded from this study. A total of 75 replies were obtained, all of which were enrolled in further analysis (Table 1). The survey consisted of the following: 1) Consent form, 2) Demographic ques-

Table 1. Study group characteristics

Parameter	Result
Profession and workplace	
Paramedics (prehospital emergency care)	42
Physicians (Anaesthesiology and ICU)	11
Physicians (ED)	7
Physicians (other dept. with HDU)	15
Age [years]	
Range	23–59
Mean	35.8
Standard deviation	7.7
Job seniority [years]	
Range	1–40
Mean	11.4
Standard deviation	8.2
Sex	
Females	24
Males	51

tions (age, work experience in years, sex, profession), 3) Authors' self-designed questionnaire concerning non-technical aspects of leadership in their critical care teams (as described below), 4) Mini-COPE questionnaire in Polish adaptation [8].

The self-designed questionnaire consisted of 10 items. Possible answers were as follows: 1 = I fully disagree; 2 = I don't agree; 3 = Neutral/Hard to say; 4 = I agree; 5 = I fully agree. Participants were asked to indicate the extent to which the following statements describe their experience of working with a critically ill patient:

- 1) When someone works too slowly, I say: Hurry up! Faster!
- 2) I shout vulgar words (e.g. "fuck").
- 3) I wave my hands nervously when things don't go my way.
- 4) I throw things when I feel like something isn't working.
- 5) I issue many orders that cannot be carried out simultaneously.
- 6) I shout: Where is...? Someone bring...!
- 7) I try to speak in a calm voice.
- 8) When giving orders, I point to a specific person.
- 9) I try not to let others see my emotions.
- 10) I blame others for things that don't go my way.

In further analysis, items number 7, 8, and 9 were inverted (R = reverse); thus, a high total score in the questionnaire reveals less ethical and less composed leadership.

The Mini-COPE questionnaire was analysed according to its key to receive 14 strategies. Then the strategies were grouped into 4 categories (mean results were obtained): active (active coping, planning, positive revaluation), seeking support (looking for emotional support, looking for instrumental support), avoidant (dealing with something else, denial, emotional discharge), and helplessness (substance use, discontinuation of action, blaming oneself). Acceptance,

Table 2. Correlations between each item of the authors' questionnaire and the total result

Item number	Mean	SD	Skewness	Kurtosis	Item – total correlation (r Pearson value)
IT1	1.97	0.96	0.81	0.23	0.206
IT2	1.41	0.81	1.95	2.93	0.471
IT3	1.41	0.62	1.23	0.47	0.475
IT4	1.09	0.29	2.85	6.31	0.408
IT5	1.52	0.74	1.46	1.92	0.415
IT6	1.61	0.87	1.61	2.78	0.404
IT7 (R)	2.04	1.08	1.03	0.56	0.446
IT8 (R)	2.19	1.12	1.03	0.61	0.588
IT9 (R)	2.47	1.27	0.45	- 0.81	0.481
IT10	1.53	0.83	1.80	3.71	0.426

humour, and turning to religion were not part of any strategy subgroup [8, 9].

Statistical analysis

Statistical analysis was performed with Jamovi 2.5.3 software. Since most data were not parametric, the results are in general presented as mean and me-

dian $\pm$ IQR (interquartile range). Non-parametric statistical tests were applied, such as the U Mann-Whitney test and rho Spearman correlations.

Results

The Cronbach's α for the Mini-COPE questionnaire in this study was 0.782, and for the self-designed

Table 3. Survey results of participants divided into professions (*p*-value comes from *U* Mann-Whitney test)

Feature	Physicians (n = 33)		Paramedics (n = 42)		P-value
	Mean	Median ± IQR	Mean	Median ± IQR	
Mini-COPE					
Active coping	2.33	2.50 ±0.50	2.26	2.50 ±1.00	0.697
Planning	2.29	2.00 ±0.50	2.11	2.00 ±0.50	0.326
Positive revaluation	1.65	1.50 ±0.50	1.87	1.75 ±1.00	0.259
Acceptance	2.15	2.00 ±1.00	2.05	2.00 ±1.38	0.623
Humour	1.18	1.00 ±1.00	0.91	1.00 ±1.00	0.086
Turning into religion	0.61	0.00 ±1.00	0.39	0.00 ±1.00	0.292
Looking for emotional support	1.68	1.50 ±1.00	1.69	1.50 ±0.50	0.996
Looking for instrumental support	1.85	2.00 ±1.00	1.86	2.00 ±1.38	0.987
Dealing with something else	1.73	2.00 ±0.50	1.46	1.50 ±1.38	0.063
Denial	0.33	0.00 ±0.50	0.37	0.00 ±0.50	0.607
Emotional discharge	1.50	1.50 ±1.00	1.10	1.00 ±1.00	0.012*
Substance use	0.36	0.00 ±0.50	0.30	0.00 ±0.00	0.706
Discontinuation of action	0.55	0.50 ±1.00	0.44	0.00 ±1.00	0.347
Blaming oneself	1.61	2.00 ±1.00	1.04	1.00 ±1.00	0.005*
Strategy group: active	2.16	2.20 ±0.80	2.03	2.00 ±0.60	0.347
Strategy group: seeking support	1.86	1.80 ±0.80	1.74	1.80 ±0.65	0.491
Strategy group: avoidant	1.02	1.00 ±0.60	1.11	1.20 ±0.50	0.305
Strategy group: helplessness	0.727	0.70 ±0.50	0.686	0.75 ±0.80	0.715
Authors questionnaire					
Item 1	2.03	2.00 ±2.00	1.93	2.00 ±1.00	0.982
Item 2	1.61	1.00 ±1.00	1.26	1.00 ±0.00	0.122
Item 3	1.45	1.00 ±1.00	1.38	1.00 ±1.00	0.348
Item 4	1.09	1.00 ±0.00	1.10	1.00 ±0.00	0.958
Item 5	1.55	1.00 ±1.00	1.50	1.00 ±1.00	0.773
Item 6	1.88	2.00 ±1.00	1.40	1.00 ±1.00	0.062
Item 7 (R)	1.94	2.00 ±1.00	2.12	2.00 ±2.00	0.174
Item 8 (R)	2.33	2.00 ±1.00	2.07	2.00 ±1.75	0.226
Item 9 (R)	2.39	2.00 ±3.00	2.52	2.50 ±2.00	0.594
Item 10	1.61	1.00 ±1.00	1.48	1.00 ±1.00	0.394
Total	16.7	17.0 ±5.00	17.7	17.0 ±5.75	0.684

*Statistically significant difference (*p* < 0.05).

questionnaire it was 0.750. Item-total correlations of the authors' questionnaire and other statistical parameters are presented in Table 2.

Females had statistically higher results in the 'Dealing with something else' subscale (mean 2.00 versus 1.38; median $\pm$ IQR 2.0 $\pm$ 0.625 versus 1.5 $\pm$ 1.0; $U = 325$; $p < 0.001$). Survey results of participants divided into professions are presented in Table 3. The highest scores (for both groups) were obtained in the 'Active coping' and 'Planning' subscales (which are elements of 'active strategy group') as well as 'Acceptance'. Results in the 'Denial', 'Substance use', 'Turning to religion' and 'Discontinuation of action' subscales were generally low among both professions. Physicians and paramedics differed in the 'Emotional Discharge' and 'Blaming oneself' subscales, with no other significant differences (Table 3). Among physicians, the type of the hospital department did not significantly affect the authors' questionnaire scores (non-parametric ANOVA test for total score: $\chi^2 = 5.0$; $p = 0.171$). No significant correlation between the questionnaire results and age or job seniority was observed.

The total score in the self-designed questionnaire correlated negatively with the Mini-COPE active strategy group results ($\rho = -0.268$; $p = 0.02$). Moreover, when dividing the study group by percentiles (cut-off 50th percentile, ≤ 16 points, $n = 36$ and > 17 points, $n = 39$) of total points obtained from the authors' questionnaire, there is a significant difference in results of active strategies (mean 2.22 versus 1.97; median $\pm$ IQR 2.2 $\pm$ 0.70 versus 2.0 $\pm$ 0.60; $U = 494$; $p = 0.027$). These findings are presented in Figure 1. Summing up, participants with higher total scores in the authors' self-designed questionnaire (less ethical and composed leadership) tended to present lower levels of active coping.

Discussion

Cronbach's α values of both questionnaires used in the study are fully acceptable. Items of the authors' self-designed questionnaire correlated with the total

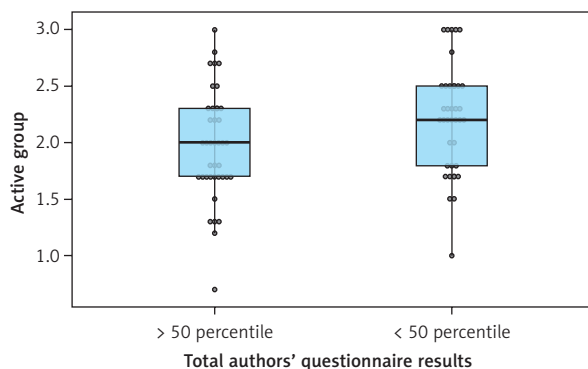


Figure 1. Mini-COPE active strategy group results – study group divided by percentiles obtained from authors' questionnaire scoring

result at a sufficient level at which no item needed to be excluded. The Mini-COPE is a test which is well validated (in both English and Polish adaptations) and can be used as a valuable tool for assessing stress coping strategies in adults [8, 9].

We have a lot of theoretical and empirical frameworks for understanding coping, and one such classification is active coping. Active coping is characterised by an attempt to use one's own resources to deal with a problematic situation through the use of psychological or behavioural coping efforts. There are many ways to understand active coping, such as developing professional competence, correcting mistakes, confronting stressful situations, and reflecting on stressful problems [10, 11].

In general, active strategies (which were generally at high levels in the study group) are quite useful in critical care teams because proper redirection of stress into planning and active coping can be fruitful. These strategies are generally at high levels among medical professionals, policemen, and firefighters (people who need to perform in stressful conditions) [12–14]. What is interesting, in our study the mean results of active strategies were correlated with ethical and composed leadership, which means that participants who poorly redirect their stress into activity tend to be more expressive and less ethical toward team members. Emotional intelligence (EI) includes quick observation, the generation of feelings, and the expression of emotions. It enables the ability to understand emotions, which translates into thinking. EI includes the ability to manage oneself and to work effectively with others [15]. Emotional intelligence is strongly associated with active stress coping strategies [16]. Active coping strategies are believed to be good and healthy for individuals facing emergency situations regularly; they can reduce the long-term effects of stress [17].

Emotional discharge and blaming oneself were at higher levels among physicians in comparison with paramedics. This could be associated with differences in education, cultural conditions, and the type of their work. These differences in coping strategies could explain why paramedics and physicians differ so much in their leadership patterns [7]. Because the emotional discharge level is higher, participants tend to be more expressive with their emotions, which may lead, for example, to shouting and other forcible behaviours during critical situations. Unethical behaviour of team leaders could be their way to reduce critical care-related stress.

The way that critical care team leaders make and communicate their decisions is not neutral for co-workers or for patients. There are numerous possible leadership patterns. Thus, the leader does not only decide what to do (what drugs are applied, what procedures are performed) but also how to collaborate and communicate with other medical professionals (team members). Since there is a range of paths in leader-

ship, each leader should consciously shape his or her management skills. This awareness and freedom of choice between different leadership methods make an invitation for ethics.

Ethics of leadership is not a novel field in philosophy because it was considered by a lot of authors previously. There are a few available definitions of 'ethical leadership'. For example, De Hoogh and Den Hartog define it as a process in which a leader influences group activities to the organisational goals attainment in a socially responsible way. Hartog points out that leaders' actions should be beneficial for all stakeholders, including followers, organisations, and society. Kanungo adds the need to avoid harmful acts to others [6].

In general, verbal pressure made to speed up others' work was not taken under consideration directly by other authors, but according to the above definitions, it seems to be a controversial practice. Since the leader is responsible not only for the effect, he or she needs to understand possible harmful effects of verbal pressure; it can increase others' stress levels and act as a distractor.

Ethical leadership in medicine was also taken under consideration in the past. Today we know about numerous empirical benefits of ethical leadership in medicine. For example, a benevolent climate improves teamwork-related satisfaction [18], and ethical leadership increases team members' creativity [19, 20] and improves mindfulness [21]. The COVID-19 pandemic provided extra evidence connecting ethics in healthcare management and safety climate promotion as well as moral courage for subordinates [22–24].

Despite the above evidence, ethical leadership during medical emergencies is not described widely. However, there are some rules of good and effective management in critical care. Crisis resource management (CRM) is a set of non-technical principles that improve team performance. They include anticipation, role assignment, early calling for help, closed-loop communication, and much more. Although the above rules cover a wide range of management aspects and skills, verbal pressure is not mentioned in a negative or positive way [25, 26]. Moreover, CRM is considered to be a useful tool, but it is not understood as an ethical issue.

What is more, medical oaths in different cultures and countries do not mention ethical aspects of leadership [27–29], even if team management is an indispensable part of being a physician. According to oaths, it seems to be clear that the patient's good is the highest law, but the doctor's performance is not limited to their relationship with patients. Nowadays physicians collaborate widely with other medical professionals, so they have some moral obligations also towards them.

Because exceeded stress levels lead to poor emergency performance, the role of team leader is no longer limited to issuing orders. Leadership definition

understood as making decisions is insufficient; thus, we should use the word 'leader' to refer to a person who is responsible for the team on many levels. Leadership responsibility also covers emotional aspects because they influence the entire team performance outcome. Ethics is becoming intertwined with emergency medicine, opening completely new fields for both branches of science.

Verbal pressure made by a team leader is both unsafe and ethically unacceptable. The problem underlying verbal pressure is the leader's difficulty in controlling his emotions and the feeling that he has the right to judge and criticize others. In fact, the team leader does not hold an infallible position, and his or her law to hurry team members' tasks up is debatable. In some cases, team members may act unprofessionally, and the team leader's intervention might be crucial, but it should not be a standard, and such a comment should be reserved only if others' performance is dangerously slow.

Conclusions

Active coping group strategies are the strongest ones among Polish critical care team leaders. Moreover, higher levels of active coping strategies are connected with more ethical and composed leadership, evaluated using the authors' self-designed questionnaire. Emotional discharge and blaming oneself (which are at higher levels among physicians) may explain the differences in leadership patterns between physicians and paramedics. There is a great need for further studies concerning the issue of leadership in critical care. Medical education needs to introduce proper teaching strategies that are not limited only to knowledge. It is vital that non-technical skills and psychological aspects in critical care teams are strengthened and improved.

Availability of data and materials

Raw data are available by following the link below: https://docs.google.com/spreadsheets/d/133VadockcqzQ66os1GrRvRsZ_q3cPZ4/edit?usp=sharing&oid=109996342934800225318&rtfpof=true&sd=true

Acknowledgments

We would like to express our gratitude to the study participants.

Funding

No external funding.

Ethical approval and consent to participate

The inquiry was sent to Bioethical Commission of Gdańsk Medical Chamber (Poland), and a reply was obtained stating that such a survey study does not

require the commission's permission. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013).

Conflict of interest

The authors declare no conflict of interest.

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Received: 7.04.2025

Accepted: 9.08.2025

Online publication: 11.08.2026