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ORIGINAL ARTICLE

The Evaluation of the Knowledge and Skills of Emergency Department Physicians in Managing Patients with Acute Agitation

ABSTRACT

Objectives: Agitated patients make up a significant part of psychiatric emergencies. Intervening with an agitated patient causes the use of a significant part of emergency department (ED) resources. In the present study, the purpose was to evaluate the knowledge and skills of emergency medicine (EM) physicians in agitated patient management and identify the fields they are lacking.

Methods: A questionnaire was prepared under certain topics for the data collection tool (15 questions). The questions were evaluated in a pilot implementation. A questionnaire prepared in Google Forms was sent to EM resident physicians and EM attending physicians who were working in the ED, through an instant messaging and communication application (WhatsApp).

Results: The response rate was 81% (158 of 195). A total of 158 participants who agreed to participate were included in the study. When the participants' answers were analyzed, it was found that less than 50% of correct answers were given to the questions that questioned the points to be considered in communication with an agitated patient, pharmacotherapy in the management of agitated patients, and the purpose of the verbal de-escalation technique.

Conclusions: EM physicians should be trained more in the verbal de-escalation technique that can be applied in the management of agitated patients and pharmacotherapy in the management of agitated patients.

Keywords: Agitation, psychiatric emergencies, verbal de-escalation technique

There is an increase in visits to emergency departments (EDs) associated with psychiatric emergencies every year (1). Agitation, which is one of the clinical presentations of altered mental status, was reported to make up 20% of all mental changes in a study conducted in our country (2). Excessive psychomotor activity, which is defined as agitation, can cause aggressive and violent behaviors. When violent behavior occurs, the agitated patient jeopardizes the safety of himself/herself, other patients, staff, and the healthcare team. In an agitated patient, it is important to intervene early before aggressive behavior occurs.

ED care involves a uniquely complex setting (3). An agitated patient evaluated in such a setting requires a significant part of hospital resources. At this point, the knowledge of the emergency medicine (EM) physician involved in the examination of the patient is important. In this chaotic setting, where there is limited time to calm the patient, the physician examining the patient may not have adequate time to obtain advice from other physicians (4). The more adequate the emergency physician's knowledge and skills in examining the patient and taking the agitated patient under control, the more adequately s/he can protect the patient and other patients and staff. For these reasons, many guidelines were published in the past to manage agitated patients (5-7).

Prepared by psychiatry and EM physicians for this challenging patient group, **Best Practices in the Assessment and Treatment of Agitation (BETA)** was a pioneering effort to create a comprehensive list for preventing and managing agitation. The basic strategies in the BETA Project are to ensure the safety of the patient, staff, and other people in the region, help patients manage emotions and distress and maintain or regain control of their behaviors, to avoid using restraint whenever possible, and to avoid coercive interventions that

Ilker Şirin[1]
Afşin Emre Kayipmaz[1]
Emrah Arı[2]
Ayşe Hicret Çalı[3]
Hamdi Haluk Çalı[3]

[1]*Department of Emergency Medicine, Ankara Etlik City Hospital, , Ankara, Türkiye*
[2]*Department of Emergency Medicine, Ankara Mamak State Hospital, Ankara, Türkiye*
[3]*Department of Emergency Medicine, Yozgat City Hospital, , Yozgat, Türkiye*

Corresponding author:
Ilker Şirin
✉ sirinilkerr@gmail.com

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might increase agitation (8,9). This project also aimed to provide an ethical perspective in approaching agitated patients.

In a questionnaire that was conducted on psychiatric physicians, two-thirds of the physicians who were attacked said that they received inadequate training in managing patients with aggressive behaviors (10). There are more deficiencies in guidelines regarding managing agitated patients in specialties other than psychiatry.

In the present study, the purpose was to identify the shortcomings of EM physicians in managing agitated patients and offer a suggestion to increase training on relevant issues. It was also aimed to investigate whether the level of knowledge and skills has a relationship with working time and determine whether experience in the ED affects the management of agitated patients.

METHODS

The questions were prepared for EM physicians to evaluate their knowledge and skills in managing agitation in the present study. The characteristics and questions of the participants were directed to the participants through the web-based system (Google Forms). The participants were asked to answer without any time limit.

Target Population

The target population for the questionnaire was EM physicians in all EDs of City Hospitals, University Hospitals, and Training and Research Hospitals, which is a city that has a population of six million. To contact the participants, the questionnaire that was prepared in Google Forms was shared in WhatsApp groups with EM physicians in hospitals. Those who agreed to participate in the study were asked some questions before answering the questionnaire on age, gender, the hospital they worked at, length of time they worked in the emergency clinic, their titles (resident physician, attending physician), time they worked in the ED (under 5 years, over 5 years), and total time they worked as physicians. Those who answered any of the questions incompletely were excluded from the study.

Sample Size

We determined that a sample size of 155 was needed to achieve a 0.95 confidence level (CI) with a 5% margin of error. The questionnaire was sent to 195 EM physicians; 168 emergency physicians responded. A total of 168 participants answered and sent the questionnaires, but 10 participants were excluded from the study because they answered the questionnaires incompletely, and therefore 158 participants were included in the study.

Preparation of Questionnaire Questions

When the questionnaires were prepared, the literature on the subject was reviewed. The questions were prepared by a professor physician and two attending physicians after analyzing them one by one to evaluate their ability to measure knowledge on the subject. Some questions were eliminated and finalized. For the application to emphasize many important points, all subheadings were determined, and 15 questions were prepared. "True" and "False" options were given to the participants to measure their knowledge levels. The distribution of 15 questions was as follows: three questions on the definition and etiology of agitation, four questions on how the interviews must be conducted, four questions on pharmacotherapy, two questions on physical restraint, and one question on the verbal de-escalation technique. The important points of the American Emergency Psychiatry Association's BETA project were taken as the basis for preparing the questionnaires (9). The questionnaire questions sent to the participants are given in Table 1.

Pilot Implementation

The questions in the final version of the selected data collection method were evaluated by a team of 9 people who consisted of EM physicians and psychiatrists, and no changes were recommended. The data from the pilot implementation were not included in the study.

Statistical Analysis

The data were evaluated by using the SPSS 23.00 package program. The descriptive data were expressed as %, number (n), mean

Table 1. Questionnaire sent to participants. Correct answers are highlighted in bold

1)	Aggressive behaviour often develops suddenly, without warning.	TRUE	**FALSE**
2)	Agitation may not be caused by a psychiatric cause.	**TRUE**	FALSE
3)	Acute grief is always an agitation.	TRUE	**FALSE**
4)	While the agitated patient is being evaluated in the emergency department, he/she should be interviewed in any room with the door of the room closed.	TRUE	**FALSE**
5)	When first approaching the agitated patient, be authoritative by looking them in the eye.	TRUE	**FALSE**
6)	Agitated patients should not be lied to in the examination and treatment management.	**TRUE**	FALSE
7)	Touching the agitated patient gently, with the patient›s back turned, will calm the patient.	TRUE	**FALSE**
8)	Pheniramine hydrogen maleate is the first-line treatment in the management of agitated patients.	TRUE	**FALSE**
9)	In the agitated patient in alcohol withdrawal, benzodiazepines should be used.	**TRUE**	FALSE
10)	Ketamine is a part of agitated patient management.	**TRUE**	FALSE
11)	The agitated patient should be physically restrained as soon as possible.	TRUE	**FALSE**
12)	The physician who is the team leader should not be directly involved in the application of physical restraint.	**TRUE**	FALSE
13)	In the management of agitated patients, combination therapy consisting of antipsychotic and benzodiazepine is primarily recommended.	**TRUE**	FALSE
14)	The first aim of the verbal de-escalation technique is to ensure the safety of the patient.	TRUE	**FALSE**
15)	There is no oral form of atypical antipsychotics in the management of agitated patients.	TRUE	**FALSE**

standard deviation, or median Inter Quantile Range (IQR). The distribution of the continuous data was tested with the Kolmogorov-Smirnov Test. Difference analysis of numerical variables was performed with the Mann-Whitney U Test for two independent groups. The comparison of the rates in independent groups was made with the Chi-Square Analysis. The data were evaluated within the 80% Confidence Interval, and a $p<0.05$ value was considered statistically significant.

Ethical Approval

This study was approved by the Local Ethics Committee (Decision no: 2023-802). The study was conducted following the Helsinki Declaration throughout the research process.

RESULTS

A total of 63.3% of the physicians who participated in the study (n=100) were male, and 36.7% (n=58) were female. A total of 18.4% (n=29) worked in training and research hospitals, 3.2% (n=5) worked in university hospitals, and 78.5% (n=124) worked in city hospitals. The average length of time the study participants were practicing medicine was found to be 4.91±5.63 years (min 1, max 42). The flow diagram of the study is shown in Figure 1.

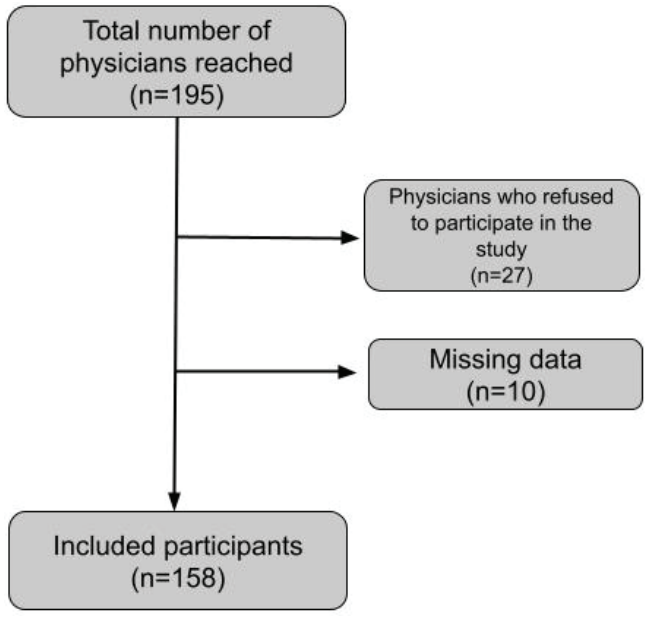

Figure 1. The flow diagram of the study

Table 2. The number of the correct answers and percentages of the correct answers of the emergency medicine resident physicians and attending physicians according to the questions

	Correct Responses	EM† Resident (n=125)	EM attending physicians (n=33)	p*
Question 1	n	95	27	0.480
	%	76.0	81.8	
Question 2	n	122	33	0.370
	%	97.6	100.0	
Question 3	n	97	31	**0.034**
	%	77.6	93.9	
Question 4	n	94	30	0.052
	%	75.2	90.9	
Question 5	n	52	17	0.309
	%	41.6	51.5	
Question 6	n	84	27	0.103
	%	67.2	81.8	
Question 7	n	120	30	0.237
	%	96.0	90.9	
Question 8	n	110	30	0.641
	%	88.0	90.9	
Question 9	n	83	25	0.305
	%	66.4	75.8	
Question 10	n	55	13	0.636
	%	44.0	39.4	
Question 11	n	103	25	0.388
	%	82.4	75.8	
Question 12	n	105	22	**0.026**
	%	84.0	66.7	
Question 13	n	79	21	0.963
	%	63.2	63.6	
Question 14	n	46	15	0.365
	%	36.8	45.5	
Question 15	n	103	25	0.388
	%	82.4	75.8	

*Mann-Whitney U Analysis was used; †Emergency medicine.

Table 3. The number of correct answers and percentages of the correct answers according to the questions in the groups with less than 5 years and more than 5 years of emergency department experience

	Correct Responses	Less than 5 years experience (n=114)	More than 5 years experience (n=44)	p*
Question 1	n†	87	35	0.665
	%	76.3	79.5	
Question 2	n	111	44	0.279
	%	97.4	100.0	
Question 3	n	88	40	**<0.050**
	%	77.2	90.9	
Question 4	n	85	39	0.054
	%	74.6	88.6	
Question 5	n	45	24	0.088
	%	39.5	54.5	
Question 6	n	73	38	**0.006**
	%	64.0	86.4	
Question 7	n	111	39	**0.025**
	%	97.4	88.6	
Question 8	n	99	41	0.262
	%	86.8	93.2	
Question 9	n	75	33	0.266
	%	65.8	75.0	
Question 10	n	49	19	0.982
	%	43.0	43.2	
Question 11	n	94	34	0.458
	%	82.5	77.3	
Question 12	n	95	32	0.134
	%	83.3	72.7	
Question 13	n	73	27	0.756
	%	64.0	61.4	
Question 14	n	44	17	0.996
	%	38.6	38.6	
Question 15	n	95	33	0.233
	%	83.3	75.0	

*Mann-Whitney U Analysis was used; †Number.

A total of 72.2% (n=114) of the participants had worked in the medical profession for at most 5 years, 27.8% (n=44) had worked in the medical profession for more than 5 years, 79.1% (n=125) were EM resident physicians, and 20.9% (n=33) were EM attending physicians.

When the answers of the participants were analyzed, it was found that more than 90% correct answers were given to the second and seventh questions. Also, less than 50% correct answers were given to the fifth, tenth, and fourteenth questions, which questioned the points to be considered in communication with agitated patients, the purpose of pharmacotherapy, and the verbal de-escalation technique in the management of this patient group.

When the answers given to the questions were analyzed according to the categories of EM residents and EM attending physicians, EM attending physicians answered the third question correctly at a significantly higher rate (p=0.034). When the answers given to the questions were analyzed according to the categories of EM residents and EM attending physicians, EM residents answered the twelfth question correctly at a significantly higher rate (p=0.026). No significant differences were detected in the other questions. Analyses made according to EM residents and EM attending physicians are given in Table 2.

When the answers given to the questions were analyzed according to the length of time working in the ED, physicians who had worked in the ED for 5 years or more answered the third question correctly at a significantly higher rate (p<0.05). When the answers given to the questions were analyzed according to the length of time working in the ED, physicians who had worked in the ED for 5 years or more answered the sixth question correctly at a significantly higher rate (p<0.05). The analysis that was made according to the duration of work in the ED is given in Table 3.

DISCUSSION

When the results of this study were evaluated, it was thought that training on pharmacotherapy in the management of agitated patients in the emergency department should be improved. More-

over, it was observed that emergency physicians did not prefer the verbal de-escalation technique. Our participants, who adopted an authoritarian approach in communication with agitated patients and prioritized protecting them by verbal de-escalation, showed a paternalistic approach towards the agitated patient. Considering the historical process of the patient-physician relationship, although the paternalistic approach reversed in the past 20 years and patient-centered care became common, according to the present study, the paternalistic approach to the management of agitated patients continues by almost half of EM physicians. Similarly, it is also known in the literature that the paternalistic approach to the understanding of medicine continues (11). The medications used by EM physicians in the management of agitated patients were different from each other. In order to prevent this difference, training should be increased, and standardization should be ensured.

It was found in our study that the paternalistic approach to verbal de-escalation is preferred over the equal patient-physician relationship. We think that the reason for this is that the physician turns into a strict kindness towards the patient during the intervention to the agitated patient, similar to the baby-parent relationship, instead of an equal patient-physician relationship (12). When managing an agitated patient in the paternalistic approach, the patient may perceive the physician as a threat and cause provocation (9,13). Communication with difficult patients, such as agitated patients, is more difficult than with other patients (14). More efforts must be made to increase this communication skill.

Pharmacotherapy is another area where there are different preferences in the management of agitated patients. Previous studies have demonstrated certain difficulties in the management of agitated patients (15). In particular, the number of physicians who stated that ketamine could be used in the management of agitated patients was below 50%. We think this is associated with the possible side effects of ketamine and the fact that its use is not recommended in patients who are diagnosed with schizophrenia. In the recent guideline published by the American College of Emergency Physicians (ACEP), the use of ketamine is recommended in patients with acute agitation (16). However, some studies criticize the use of ketamine because of its possible side effects and schizophrenia-like syndrome (17). Controversies regarding the use of ketamine in agitated patients may be the reason why emergency physicians avoid ketamine in the management of agitated patients. Some EM physicians stated that they use pheniramine in the management of agitated patients. Since the use of pheniramine has no place in the management of agitated patients, EM physicians should make some corrections in the management of agitated patients.

When the answers given to the questionnaire by the EM physicians who participated in the present study were evaluated according to whether they were residents' physicians/specialists and whether their experience was less than 5 years or more than 5 years in the ED, no significant differences were detected except for three questions. As expected, we think that experience in the ED has positive impacts on the management of agitated patients.

In psychiatric emergencies, early intervention in agitated patients improves outcomes (18). However, intervention in psychiatric emergencies involves certain difficulties (10). In this study, it was found that the knowledge and skills of emergency physicians in managing agitated patients, especially in verbally calming the agitated patient and intervening with medication, were not similar. Similar to the study by Mothibi et al. (19), there are differences in intervention to psychiatric emergencies in the emergency department. More training, including simulation-supported studies, is needed to ensure a certain standardization in the management of agitated patients. There is a need for clear guidelines with patient-specific recommendations, especially in pharmacotherapy for agitated patients. Also, regional guidelines are needed to make appropriate drug recommendations, depending on the availability of the drugs recommended by the guidelines in the regions and hospitals.

LIMITATIONS

Although the questionnaire that was directed to the participants in the present study was prepared meticulously and an attempt was made to ensure their accuracy with an implementation, the questionnaire may not have been able to accurately evaluate the knowledge and skills of physicians in managing agitated patients. The process of examining and treating a difficult patient such as an agitated patient is associated with many factors; therefore, it would not be appropriate to draw universal conclusions since they may differ from country to country. Also, although designing our questionnaire questions as "yes/no" was a more accurate method of measuring information, it might have increased the chance of receiving the correct probability in case participants answered randomly.

CONCLUSION

The knowledge and skills of EM physicians in the verbal de-escalation technique that can be applied in managing agitated patients and pharmacotherapy in agitated patient management are not at a similar level. The duration and contents of the training to be provided to EM physicians must be regulated, and standardization must be ensured for agitated patient management.

Ethics Committee Approval: This study was conducted with the permission of the Ankara Etlik City Hospital No. 1 Clinical Research Ethics Committee (decision no: AEŞH-EK1-2023-802, date: 20.12.2023)

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

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