

# Anger level and related factors in patients presenting to the emergency department

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## Abstract

**Aim:** According to reasons for admission, unnecessary patient population increases burden on emergency services and prevents real emergency patients from receiving medical care. Emergency departments frequently encounter acts of violence in various forms as a result of uncontrolled anger. Therefore, this study aimed to demonstrate anger levels and associated factors in patients presenting to the hospital emergency department.

**Materials and Methods:** This descriptive cross-sectional study was conducted on patients who presented to the emergency department of the hospital. The sample size was calculated as 320 using the minimum sampling size formula used when there are an unknown number of individuals in a system. The questionnaire form comprised of two sections. The first section included questions related to sociodemographic characteristics of the patients and various emergency situations; in the second section, the Anger Expression Scale and State-Trait Anger Scale, in which validity and reliability for our country was conducted by Özer (1994), was used. When analyzing the data, student's t-test and one-way variance analysis test was used for independent samples.

**Results:** The mean age of the individuals who participated in the study was 39.08±18.09 years. While 59.1% of patients preferred emergency admission due to fast medical care, 44.7% had a condition that required emergency assistance. In the comparison of mean state-trait anger and anger expression scores according to degree of urgency, mean state-trait anger scores were 21.75±5.42 in very urgent patients, 20.48±4.80 in urgent patients, and 20.25±5.96 in non-urgent patients ( $p>0.05$ ); mean anger expression scores were 18.07±2.88 in very urgent patients, 17.09±2.80 in urgent patients, and 16.47±3.04 in non-urgent patients.

**Conclusion:** Parallel to increased urgency, it was observed that state-trait anger levels were increased and anger expression sub-dimension was more frequently used. This suggests that individuals worrying about their health will be angrier and reflect their anger to those around them more often.

**Keywords:** Anger; emergency; patients

## INTRODUCTION

From a medical standpoint, medical assistance is provided in an emergency situation, when the individual faces a physical or psychological threat (1). Patients resort to emergency services for various reasons including perceiving of their situations as emergencies, that emergency departments provide service every day of the week at every hour of the day, shorter waiting period for examination, and difficulty obtaining clinic appointments (2). Emergency departments serving outside of office hours also assist many outpatients as well as emergency patients. As a result, emergency department personnel and physical conditions may not always be able to fulfill this demand. For these reasons, treatment of non-emergency patients increases health expenses. This rapidly growing

demand for emergency services has become a public health issue worldwide (3-4). One study reported that the number of patients who presented to the emergency department who believed there was absolute urgency was 4.08 times higher in Turkey and 8.47 times higher in Africa compared to Norway (5). According to the literature, unnecessary emergency admission is associated with increased morbidity and mortality, disruption of treatment, difficulty preserving patient privacy, unnecessary ambulance use, extended hospital stays, and increased violence and miscommunication (3,6-8).

The period when individuals present to the emergency department, both in emergency situations and perceptions of emergency, is when anger states may be high. Anger is a natural, unsatisfied, universal, enriching emotional

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reaction to dissatisfaction that develops in early years of life and is common in daily life (9). Anger, depending on its intensity and duration, may be beneficial or harmful. Anger state is beneficial at moderate intensity and in short duration, but destructive when severe or long-lasting (10).

Anger is expressed by individuals in various forms. These include: inward anger, outward anger, and anger control (11-12). Inward expression of anger is an alternative adaptation mechanism in which anger is held inside or concealed against causes of anger. Outward expression of anger is verbal or behavioral transposition of angry emotion. Anger control determines the extent that anger controls the individual's relationships with his/her environment (13). When anger cannot be controlled, individuals may display destructive and aggressive behaviors to themselves and others around them, and these behaviors may directly or indirectly inflict various harms on the society. Uncontrolled angry emotions led to many personal and social problems such as impaired social relationships, decreased work productivity, deteriorated physical and mental health, traffic terror, and street fights (14).

Emergency departments frequently encounter these events that may occur in various forms, as a result of uncontrolled anger. These negative events often disrupt the necessary workflow of emergency departments as well as more serious events progressing to verbal and physical violence against health workers. In order to eliminate this negativity, anger levels and potentially related factors of these individuals must be first be revealed.

For these reasons, this study aimed to investigate the anger levels and related factors of patients presenting to the Turgut Ozal Medical Center Emergency Services Clinic.

## MATERIALS and METHODS

This study was a descriptive cross-sectional study that investigated patients who presented to the hospital emergency services clinic in February-March 2016. Written permission was obtained from a university ethics committee and department of emergency medicine in order to conduct the study. The sample size was calculated as 320 using the minimum sampling size formula used to determine in groups whose universe is unknown [ $n=(t^2 \cdot p \cdot q)/d^2$ ]. A face-to-face questionnaire was conducted with 320 people over the age of 18 who accepted to participate in the study and applied to the emergency department.

Data was collected using a supervised questionnaire technique, and the questionnaire consisted of two sections. The first section included questions related to sociodemographic characteristics of the patients and various emergency situations. The second section consisted of the Anger Expression Scale and State-Trait Anger Scale.

### Anger Expression Scale and State-Trait Anger Scale

Anger Expression Scale and State-Trait Anger Scale in which validity and reliability for our country conducted

by Ozer (1994) was used. This scale is a 4-point Likert scale comprised of 34 items. The scoring is evaluated as: none (1 point), sometimes (2 points), often (3 points), and always (4 points). The first 10 items of the scale represent state-trait anger, how the person feels about his/herself, and extent of anger the person experiences. The lowest State Trait score obtainable is 10 points, while the highest score is 40. The Anger Expression Scale consists of three subgroups: inward anger expression (items 13, 15, 16, 20, 23, 26, 27, and 31), outward anger expression (items 12, 17, 19, 22, 24, 29, 32, and 33), and anger control (items 11, 14, 18, 21, 25, 28, 30, and 34). The lowest obtainable score from the inward, outward anger expression, and anger control subscales is 8, while the highest possible score is 32. The Cronbach Alpha value of the Anger Expression Scale and State-Trait Anger Scale is between .77 and .88 (15).

In the evaluation of Anger Expression Scale and State-Trait Anger Scale results, arithmetic mean values of total scores of the general group was calculated for scoring of each subscale. Scores lower than this mean value represented low state-trait anger level and anger expression, while scores above this mean value represented high state-trait anger level and anger expression.

The data was statistically analyzed using the SPSS 22.0 package program. Student's t-test and One-Way ANOVA was used to assess independent variables. The value of  $p < 0.05$  was considered statistically significant in all assessments.

## RESULTS

Sociodemographic characteristics of the patients are presented in Table 1. As seen in Table 1, mean age of the study participants was  $39.08 \pm 18.09$  (18-91) years. According to gender, 50.9% of the patients were male and 49.1% were female. While 57.8% of the patients were married, 35.6% were not married. According to educational status, 6.6% of the patients were illiterate, 7.5% were literate, 17.8% were elementary graduates, 7.5% were middle school graduates, 33.1% were high school graduates, and 27.5% were university graduates. SGK was the health insurance provider of 81.3% of patients, whereas 15.3% were insured by 60/c-1 (green card). According to career, 10.9% were workers, 20% were housewives, 10% were retired, 20.3% state officials, 14.1% free enterprise, 23.1% students, and 1.6% were unemployed. Mean monthly income of the patients was <1000TL in 34.7% of patients, between 1000-2000TL in 44.7%, and >2000TL in 20.6% of patients.

Distribution of various characteristics of emergency admission of the patients is presented in Table 2. According to reasons for admission, the top three complaints were as follows: 20.3% presented with infection, 15.6% neurological disease, and 12.5% gastrointestinal disorder. The least common admission reasons included: 7.2% respiratory system complaint, 5.9% musculoskeletal, and 4.4% poor general health. According to onset of symptoms, onset was 1-7 days prior in 46.3% of patients, less than one day in 30.6%, and more than 7 days in 23.1%. Emergency

admission reason for preference was fast health service in 59.1%, emergency situation in 44.7%, and quality health service in 30.3%. The least common reasons were inability to obtain permission from work in 7.2%, inexpensive health service in 11.3%, and not waiting in outpatient lines in 12.8%. While 16.6% of patients believed their case was very urgent, 69.7% believed it was urgent, and 13.8% stated they did not have an urgent condition. Although 88.4% of patients were satisfied with the treatment they received, 11.6% were unsatisfied.

Table 1. Distribution of patients according to sociodemographic characteristics		
Socio-demographic Characteristics	n	%
<b>Age</b>		
18-25	95	29.7
26-35	74	23.1
36-45	50	15.6
46-55	29	9.1
56-65	37	11.6
>65	35	10.9
<b>Gender</b>		
Male	163	50.9
Female	157	49.1
<b>Marital Status</b>		
Single	114	35.6
Marriage	185	57.8
Other	21	6.6
<b>Educational Level</b>		
Illiterate	21	6.6
Literate	24	7.5
Primary School	57	17.8
Secondary School	24	7.5
High School	106	33.1
University	88	27.5
<b>Level of Income</b>		
<1000 lira	111	34.7
1000-2000lira	143	44.7
>2000lira	66	20.6
<b>Total</b>	<b>320</b>	<b>100</b>

Distribution of Anger Expression Scale and State-Trait Anger scores compared according to gender of the patients is presented in Table 3. Mean State-Trait Anger scores were 21.40±4.97 in males and 19.89±5.10 in females ( $p<0.05$ ). Mean Anger Expression inward anger subscale scores were 15.38±2.75 in males and 15.22±2.89 in females ( $p>0.05$ ); mean outward anger subscale scores were 17.49±2.95 in males and 16.83±2.77 in females; mean anger control subscale scores were 17.02±2.61 in males and 16.59±2.79 in females ( $p>0.05$ ).

Table 4 demonstrates the distribution of Anger Expression Scale and State-Trait Anger scores according to reasons for emergency admission. Mean Anger Expression

Scale and State-Trait Anger scores were 21.75±5.42 in very urgent patients, 20.48±4.80 in urgent patients, and 20.25±5.96 in non-urgent patients ( $p>0.05$ ); mean inward anger expression subscale scores were 14.69±2.44 in very urgent patients, 15.48±2.48 in urgent patients, and 15.13±3.06 in non-urgent patients ( $p>0.05$ ); mean outward anger expression subscale scores were 18.07±2.88 in very urgent patients, 17.09±2.80 in urgent patients, and 16.47±3.04 in non-urgent patients ( $p<0.05$ ); mean anger control subscale scores were 16.35±2.66 in very urgent patients, 16.82±2.64 in urgent patients, and 17.31±3.05 in non-urgent patients ( $p>0.05$ ).

Table 2. Distribution of characteristics related to emergency admission in patients		
	n	%
<b>Application Complaint</b>		
Trauma	27	8.4
Nervous system	50	15.6
Infections	65	20.3
Cardiovascular System	22	6.9
Severe general condition disorder	14	4.4
Gastrointestinal System	40	12.5
Acute abdomen	27	8.4
Respiratory system	23	7.2
Musculoskeletal System	19	5.9
Other	33	10.3
<b>Reason for Emergency Service</b>		
Having a situation requiring urgency	143	44.7
Fast health service	189	59.1
Quality health care	97	30.3
Being able to treat at any time	90	28.1
Cheap health care	36	11.3
Inability to get permission from where he works	23	7.2
Low number of patients admitted	52	16.3
No queue in the polyclinic	41	12.8

Table 3. Comparison of mean state-trait and anger expression Scale scores of patients according to gender		
	Mean±SD	p
<b>Trait Anger</b>		
Male	21.40±4.97	0.008*
Female	19.89±5.10	
<b>Anger In</b>		
Male	15.38±2.75	0.633*
Female	15.22±2.89	
<b>Anger Out</b>		
Male	17.49±2.95	0.039*
Female	16.83±2.77	
<b>Anger Control</b>		
Male	17.02±2.61	0.154*
Female	16.59±2.79	
<b>*Independent Samples T Test</b>		

**Table 4. Comparison of mean state-trait and anger expression Scale scores of patients according to state of urgency**

	Mean±SD	p
<b>Trait Anger</b>		
Very emergency	21.75±5.42	0.223**
Emergency	20.48±4.80	
Not Emergency	20.25±5.96	
<b>Anger In</b>		
Very emergency	14.69±2.44	0.173**
Emergency	15.48±2.84	
Not Emergency	15.13±3.06	
<b>Anger Out</b>		
Very emergency	18.07±2.88	0.018**
Emergency	17.09±2.80	
Not Emergency	16.47±3.04	
<b>Anger Control</b>		
Very emergency	16.35±2.66	0.222**
Emergency	16.82±2.64	
Not Emergency	17.31±3.05	

\*\*One Way ANOVA

## DISCUSSION

One of the many changing workplace conditions from the past to the present is the range of elements that threaten the safety of workers. Workplace hazards are listed as follows: physical, chemical, psychological, ergonomic, and biological. Nowadays, all forms of violence, sexual harassment, and mobbing has become increasingly common. Employment at health institutions holds more risk than other institutions. Studies conducted on this subject have shown that violence in the health field is more common than in other institutions (16) and that in the health field, violence is more present in emergency departments (17). In a study conducted by emergency health care workers, it was found that 80.2% were exposed to physical violence, 100% to verbal violence, 73.5% to psychological violence and 0.6% to sexual violence (18). Violence can be prevented when it is determined that patients have more anger in emergency services and which patient group has more anger.

While the most common reason for emergency admission were infectious disease, neurological reasons, and gastrointestinal disorders. According to one study, the foremost reasons for emergency admission are infectious diseases such as tonsillitis, pharyngitis, and gastroenteritis (19).

Onset times of symptoms were 1-7 days prior in 46.3% of patients, less than one day in 30.6%, and over 7 days in 23.1%. One study reported that onset time was less than one day in 64.5%, 1-7 days in 29.8%, and over 7 days in 5.7% (20). Emergency admission should be a result of sudden, unexpected events. However, as seen in the literature, aside from sudden events, there is a high rate of emergency admission among patients with symptoms lasting over one day up to a week. This not only increases

crowdedness in emergency departments but also prevents sufficient productivity of health personnel and may disrupt treatment of real emergency patients.

The most preferred reason for emergency services was fast health service in our study. The least common reasons were inability to obtain permission from work, inexpensive health service and not waiting in outpatient lines. According to one study, 50% of admissions to emergency services were within office hours, and that rate of actual emergency admissions increased at night (5). This study also shows that patients have not realized the concept of emergency and unnecessarily use emergency services to quickly solve their health issues. Health illiterate patients more commonly experience health issues and present to the hospital more often (19). For these reasons, health literacy would both improve levels of health and also reduce unnecessary hospital admissions (20-23).

While 16.6% of patients stated their case was very urgent, 69.7% stated their case was urgent and 13.8% stated they were not urgent. One study found that median rate of non-urgent admissions to emergency services was 32.1% (21). Patient satisfaction with treatment was 88.4%, while 11.6% were unsatisfied. According to one satisfaction study conducted at a state hospital, 97% of patients were generally satisfied with the health services they received (24).

In our study; males presenting to emergency services have higher state-trait anger levels compared to females. One study conducted with individuals with chronic illnesses showed that men that higher anger levels than women, but was not statistically significant (25). In present patient populations, unfortunately, events are mostly attempted to be solved by men with all forms of violence. In addition state-trait anger levels were found to increase parallel to increased state of urgency and anger expression subdimensions were more frequently used. This suggests that individuals with health worries will be angrier and more often reflect their anger to their surroundings. One study on migraine patients found that migraine patients had higher Anger Expression Scale and State-Trait Anger scores compared to the control group (26). Another study on hypertension patients found that they had higher mean state-trait scores compared to the control group. However, there was no significant difference according to sub-dimensions (27).

In a study, it was stated that 29% of healthcare workers exposed to violence in the emergency department had anger and 23.8% had reluctance (28). This situation may affect the professional motivation of health personnel.

## LIMITATIONS

This study was conducted only on patients admitted to the emergency department of a hospital constitutes the limitation of the study not being generalized to society.

## CONCLUSION

The state should offer some solutions to prevent violent events frequently encountered in emergency departments.

Foremost, the punishment for this injustice against doctors and other health personnel who are devoted to their careers should be clearly defined and enforced. The referral chain should also be more actively used to reduce unnecessary emergency admissions, leading to fewer burdens on emergency departments and improved communication between health personnel and patients. Furthermore, more effective implementation of triage will ensure treatment based on urgency of patients and prioritize care.

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