The Relationship Between Anger Level and Cognitive Distortion of Patients' Relatives in the Emergency Department: A Pilot Study

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Abstract

The present study focuses on determining the possible correlations between the anger and violent tendencies and the cognitive distortions of the patients' relatives in the emergency department waiting room for planning interventions for the violence. The present study was carried out with 37 relatives of patients in the emergency department who agreed to participate in the study. Sociodemographic data form, the State Trait Anger Scale (STAS), Violence Tendency Scale, Cognitive Distortions Scale (CDS), Subjective Thoughts Belief Scale (STBS) and Subjective Anger and Distress Scale (SADS) were applied to the participants. The participants in the study had a mean age of 31.83±10.35 years, and 21 of them (56.8%) were female. A positive, statistically significant correlation was found between the CDS with the "have to-must statement" and STAS score (r=0.480, p=0.020). A positive statistically significant correlation was found between the CDS "all or none" sub-dimension and the SADS score (r=0.445, p=0.038A positive statistically significant relationship was found between the SADS Distress and Anger scores (r=0.830, p<0.001). A statistically significant positive correlation was found between the STBS physician score and nurse (r=0.694, p<0.001) and healthcare personnel (r=0.546, p<0.001) scores, and between nurse and healthcare personnel scores (r=0.683, p<0.001). Our study has revealed that there is a relationship between the patient relatives' anger and cognitive distortions in the emergency department. In this context, it can be stated that the results of the present study will be useful in terms of recognizing individuals who perpetrate violence. It is clear that studies with extensive samples are required on this subject.

Keywords: violence in health sector, cognition, anger, violence, thought

Öz

Acil Serviste Hasta Yakınları Öfke Seviyesi ve Düşünce Özellikleri İlişkisi: Pilot Çalışma

Şiddete yönelik müdahalelerin planlanması için mevcut çalışma acil servis bekleme salonundaki hasta yakınlarının öfke ve şiddete eğilimleri ile bilişsel çarpıtmaları arasındaki olası bağıntıların belirlenmesine odaklanmaktadır. Kesitsel tipteki mevcut çalışma acil servise başvuran hastaların çalışmaya katılmayı kabul eden 37 yakını ile gerçekleştirilmiştir. Katılımcılara Sosyodemografik veri formu, Sürekli Öfke-Öfke Tarz Ölçeği (SÖÖTÖ), Şiddet Eğilim Ölçeği, Düşünce Özellikleri Ölçeği (DÖÖ), Öznel Düşünceler İnanç Ölçeği (ÖDİÖ) ve Öznel Öfke ve Sıkıntı Ölçeği (ÖÖSÖ) uygulanmıştır. Çalışmaya dâhil edilen katılımcıların yaş ortalaması 31,83±10,35 yıldı ve 21'i (%56,8) kadındı. Düşünce özellikleri ölçeği "-meli, –malı ifade" ile SÖÖTÖ skoru ile arasında olumlu yönde istatiksel olarak anlamı bir korelasyon bulunmuştur (r=0,480, p=0,020). Düşünce özellikleri ölçeği "hep ya da hiç" alt boyutu ile ÖÖSÖ Sıkıntı skoru arasında olumlu yönde istatiksel olarak anlamı bir korelasyon bulunmuştur (r=0,445, p=0,038). Öznel öfke ve sıkıntı ölçeği Sıkıntı ve Öfke skorları arasında pozitif yönlü istatiksel olarak anlamlı bir ilişki saptanmıştır (r=0,830, p<0,001). Öznel düşünceler inanç ölçeği doktor skoru ile hemşire (r=0,694, p<0,001) ve sağlık personeli (r=0,546, p<0,001) skorları arasında ve hemşire ve sağlık personeli skorları (r=0,683, p<0,001) arasında pozitif yönde istatiksel olarak anlamı bir korelasyon bulunmuştur. Çalışmamız acil serviste hasta yakınlarının öfkeleri ile bilişsel çarpıtmalar arasında ilişki olduğunu ortaya koymuştur. Bu bağlamda sonuçlarımızın şiddet uygulayan bireylerin tanınmasında faydalı olacağı düşünülebilir. Bu konuya yönelik daha geniş örneklemli çalışmaların yapılmasının gerektiği açıktır.

Anahtar Kelimeler: sağlıkta şiddet, biliş, öfke, şiddet, düşünce

INTRODUCTION

The history of the phenomenon of violence, which is affected by many social and individual factors, is as old as the history of humanity (Kocacik, 2001). Violence has many definitions. It is generally defined as the purposeful application of death, injury, mental injury, physical coercion, use of force or threat against oneself or another person or against a community (WHO, 1998). Violence against healthcare professionals is defined as "threatening behavior, verbal threats, economic abuse, physical assault, and sexual assault that poses a risk to the healthcare professional by the patient, the patient's relatives, or any other individual." (Saines, 1999). Violence against healthcare professionals is increasing day by day (Er, Ayanoğlu, & Açıkgöz, 2021). For this reason, studies on the causes of this violence, how to prevent it and the prevention strategies gain importance (Özşenler, 2021).

Violence against healthcare professionals, who have a stressful working environment, should be considered as a public health problem due to the disruption of health services, work stoppage, leaving the country, psychological and physical effects on healthcare professionals, increase in costs, and decrease in productivity (Pinar et al., 2017). Studies discussing this situation generally consist of studies on health workers and those that take employees as samples (Annagür, 2010). This situation ensures that the awareness of healthcare professionals is increased and preventive measures are taken in the prevention of violence (Er et al., 2021). However, this situation causes individuals who use violence to be recognized less. For this reason, it is important to include individuals who have the potential to commit violence against healthcare professionals.

A recent community-based study revealed that violence against healthcare professionals occurs frequently in public hospitals and emergency departments. It also showed that the waiting period was the most important trigger. It has been shown that those with the highest tendency to violence are the unemployed, males, and uneducated people (Ilhan et al., 2013). However, as far as we know, there is no study evaluating the mental states of individuals who perpetrate violence. However, revealing the situation of these individuals can ensure making inroads in preventing violence.

In light of all this information, the present study focuses on determining the possible correlations between the anger and tendency to violence and the cognitive distortions of the patients' relatives in the emergency department waiting room. In addition, this study is planned to create a resource for the development of psychoeducational materials for individuals who have the potential to inflict violence on healthcare professionals in the future.

METHOD

The sample of the present study consists of the patients' relatives who were admitted to the emergency department of a public hospital. The study was carried out with 37 relatives of patients who agreed to participate in the study. Those patients were those who were admitted to the emergency department for a period of one month. Inclusion criteria for the study include being a relative of the patient who was admitted to the emergency department, being followed up and treated in the green area, being between the ages of 18–65, not having a known physical or mental schizophrenia or bipolar disorder diagnosis according to the participant's statement, meeting the necessary education and mental requirements for the study to be carried out, and being a volunteer to be included in the study. The green area is the unit where patients with minor injuries and illnesses get service. Before initiating the study, permission was obtained from the Haydarpaşa Numune Training and Research Hospital ethics committee (28.11.2016- 2016/108), and all stages of the study were carried out in accordance with the Declaration of Helsinki directives.

Data Collection Tools

The socio-demographic data form was developed in order to question the sociodemographic data of the participants, such as age and gender, in accordance with the purpose of the study.

State Trait Anger Scale (STAS) was developed by Spielberger in 1983 to determine the anger level and anger expression styles of practitioners (Spielberger, 1983). The scale is a 4-point Likert scale (Never: 1. . . . . Always: 4) consisting of 34 items. Although the scale does not have a total score, it has subscales of State Trait Anger, Anger Control, Anger Out, Anger Inside. The Turkish validity and reliability studies of the scale were conducted by Özer, in 1994. In the present study, a shortened eight-item form was used to find out how the relatives of the patients felt in general.

Violence Tendency Scale was developed by the research team, Göka et al. in 1995, in order to determine the aggression and violence tendencies of the participants (Haskan & Yıldırım, 2012). The scale is a 4-point Likert scale (Not suitable at all: 1. . . . . Very suitable: 4). It consists of 20

items. The score that can be obtained from the scale changes between 20 and 80. Higher scores indicate an excessive tendency to violence (Haskan & Yıldırım, 2012).

The Cognitive Distortion Scale (CDS) was developed by Covin, David J. A, Ogniewicz, & Seeds in 2011 to evaluate cognitive errors. It is a 2-part scale with 10 items in each part and was translated into Turkish by Özdel, Taymur, Guriz, Tulaci, Kuru, & Turkcapar in 2014. It evaluates ten different ways of thinking (mind reading, catastrophizing, all-or-nothing thinking, deduction from emotion, labeling, mental filtering, overgeneralizing, personalizing, have to-must statements, downplaying or ignoring the positive) in ten items. Each item has an explanation and examples of the way of thinking. Examples are related to personal achievements and social relationships aimed at facilitating the understanding of the reflection of thinking style on real life. For each item, the practitioner makes a Likert-type score between 1–7 (Never: 1…. Always: 7).

Subjective Thoughts Belief Scale (STBS): In accordance with the purpose of the study, the beliefs of the participants were questioned on eight thoughts about healthcare professionals who were determined by the researchers. The questionnaire contains statements such as "they deliberately keep us waiting", "they don't deserve the money they get" and "they deserve violence". The created scale was scored separately for the physician, nurse, and healthcare professional. The scale consists of eight items and is a four-point Likert type (I don't believe it at all: 1,……. I totally believe: 4) self-report type scale. For the present research, Cronbach's alpha coefficient of internal consistency was calculated as 0.783.

Subjective Anger and Distress Scale (SADS) was used by the researchers to evaluate the subjective anger and distress of the participants in accordance with the purpose of the study. It consists of 2 items. Distress is questioned in one, and anger is questioned in the other one. Participants are asked to rate their distress and anger levels between 1 and 7. The Cronbach's alpha value of the questionnaire was found to be 0.906.

Beier Sentence Completion Test (SCTs) is a semi-structured projective test developed by Beier to determine the general attitudes, tendencies and wishes of individuals and its Turkish adaptation was made by Alibal (1974). The original form of the scale applied over the age of 16 consists of 67 items. In our study, it was adapted to the conditions of the participants and consisted of 18 items (Example:

Hospital…/ At a physician. . . / I wish the patient. . . / Physicians. . . / Nurses. . .). The scoring of the test is done in pursuant of the completion of the sentence according to the positive (+1), negative (-1) and neutral (0–0). Then, it is surmised by the sum of the points (Bayanoğlu).

Study Design

The relatives of the patients who were waiting in the emergency department of the hospital at the time of the study were invited to the study. Volunteer participants were informed by the researchers, then their informed consent was obtained and then they were asked to fill in the socio-demographic data form, the forms containing the STAS, VTS, CDS, STBS and SADS. Incomplete and improper forms were excluded from the study. The data obtained was duly subjected to statistical analysis and reported.

Statistical Analysis of Data

IBM Statistical Package for Social Sciences (SPSS) program version 22.0 (IBM Inc., Chicago, IL, USA) was utilized to perform statistical analyses of study data. Descriptive data are presented as mean and standard deviation for continuous variables and as frequency and percentage for categorical variables. Before statistical analysis, the values of kurtosis and skewness and the Shapiro-wilk test were used to test whether the data met the parametric assumptions. The relationship between two continuous variables was tested with Spearman correlation analysis. The statistical significance was $p \leq 0.05$.

RESULTS

The mean age of the 37 participants was 31.83±10.35 years. Of the participants, 21 (56.8%) were female and 16 (41.2%) were male. The education level of the participants was 10.53±4.27 years. The SADS, STBS, VTS, STAS scores of the participants were presented in Table 1. A positive statistically significant relationship was detected between the SADS Distress and Anger scores (r=0.830, p<0.001). A statistically significant positive correlation between the STBS physician score and nurse (r=0.694, p<0.001) and healthcare personnel (r=0.546, p<0.001) scores, and between nurse and healthcare personnel scores (r=0.683, p<0.001) was found.

The relation between SADS, STBS, VTS, STAS scores of the participants and CDC sub-dimensions is presented in Table 2. A positive statistically significant correlation was

Table 1: Correlations of participants' psychometric measurements

		State Trait Anger Scale	Violence Tendency Scale	Subjective Thoughts Belief Scale			Subjective Anger and Distress Scale	
				Physician	Nurse	Healthcare professional	Distress Score	Anger Score
State Trait Anger Scale	r	1						
	p	—						
Violence Tendency Scale	r	0.289	—					
	p	0.097	—					
Subjective Thoughts Belief Scale								
Physician	r	0.301	0.015	—				
	p	0.113	0.941	—				
Nurse	r	0.078	0.122	0.694	—			
	p	0.692	0.546	<0.001	—			
Healthcare professional	r	0.100	0.063	0.546	0.683	—		
	p	0.613	0.756	0.003	<0.001	—		
Subjective Anger and Distress Scale								
Distress Score	r	0.121	0.107	0.108	0.234	0.192	—	
	p	0.482	0.547	0.576	0.232	0.328	—	
Anger Score	r	0.174	0.217	0.302	0.199	0.101	0.830	1
	p	0.310	0.217	0.111	0.309	0.608	<0.001	—

Table 2: Correlations of participants' psychometric measurements with the sub-dimensions of the Cognitive Distortion Scale.

Cognitive Distortion Scale		State Trait Anger Scale	Violence Tendency Scale	Subjective Thoughts Belief Scale			Subjective Anger and Distress Scale	
				Physician	Nurse	Healthcare professional	Distress Score	Anger Score
Mind reading	r	-0.210	-0.179	-0.429	-0.296	-0.323	-0.092	-0.112
	p	0.324	0.414	0.067	0.233	0.191	0.668	0.602
Catastrophizing	r	-0.037	-0.284	-0.413	-0.366	-0.443	0.065	-0.156
	p	0.867	0.200	0.088	0.148	0.075	0.770	0.476
All-or Nothing Thinking	r	0.308	0.104	-0.238	-0.251	-0.320	0.445	0.392
	p	0.163	0.653	0.357	0.349	0.227	0.038	0.071
Emotional Reasoning	r	0.100	0.231	0.103	0.255	0.090	0.199	0.164
	p	0.651	0.302	0.685	0.323	0.731	0.363	0.455
Labeling	r	0.025	0.198	0.001	0.043	-0.069	-0.000	0.042
	p	0.910	0.376	0.997	0.870	0.791	0.999	0.850
Mental Filter	r	-0.087	0.383	-0.155	-0.105	-0.281	0.137	0.086
	p	0.694	0.078	0.538	0.687	0.275	0.534	0.697
Overgenaralization	r	0.144	0.156	-0.174	-0.291	-0.314	0.237	0.159
	p	0.524	0.501	0.489	0.258	0.220	0.288	0.479
Personalization	r	0.234	-0.142	-0.189	-0.343	-0.375	0.127	0.004
	p	0.283	0.529	0.452	0.178	0.138	0.562	0.985
Should statements	r	0.480	0.191	-0.266	-0.214	-0.209	0.102	0.048
	p	0.020	0.393	0.287	0.409	0.422	0.645	0.829
Minimizing or Disqualifying the Positive	r	-0.271	0.203	-0.157	-0.201	-0.364	-0.099	-0.066
	p	0.212	0.365	0.534	0.439	0.151	0.654	0.763

found between the CDS "all or none" sub-dimension and the SADS score (r=0.445, p=0.038). A positive statistically significant correlation was found between the CDS with the "have to-must statement" and STAS score (r=0.480, p=0.020). The mean BCTT of the participants was found to be -3.55±5.40. This negative score indicates that the participants are angry.

DISCUSSION

Relatives of the patients (37 people) were included in the study. These patients were the ones who were admitted to the emergency department with non-vital problems. Scales that measure the relatives of patients' anger and their belief in healthcare professionals were applied. The study has three main findings. The first finding is that there is a positive correlation between the Subjective Thoughts Belief Scale and the scores for physicians, nurses, and other healthcare professionals. Second, a positive correlation was found between the scores of the cognitive distortion scale, the have to-must subscale, and the state trait anger and anger styles scale scores. Third, a positive correlation was found between the all or nothing subscale of the cognitive distortion scale and the distress subscale scores of the subjective anger distress scale.

There may be two reasons for the positive correlation between the scores of the subjective thoughts and belief scale for all healthcare personnel (physician, nurse, and other healthcare personnel). One of these reasons may be that the participants who filled out these scales showed consistent answers. The second and most important reason is that the relatives of the patients see all healthcare professionals in the same way. In other words, this result suggests that positive or negative thoughts are similar for all healthcare professionals. Although violence against healthcare professionals was not examined in our study, when it is considered that aggressive behavior develops as a result of negative thoughts of patient relatives, the subjective opinion of healthcare personnel gains importance. In a study conducted in 2011, it was determined that nurses are more likely to be exposed to violence than other healthcare personnel because they are in closer contact with patients and their relatives (Büyükbayram & Okçay, 2013). Similar findings were obtained in another study conducted with emergency department personnel in 2011(Şahin, Gaygisiz, Balci, Öztürk, Sönmez, & Kavalci, 2011). It was found in a study examining violence against physicians that 45.6% of physicians, 35.8% of nurses and 19.1% of

other employees were exposed to violence (Özyurt, Ogan, Solakoğlu, Bilen, Hamarat, & Arslan, 2009). There are other studies concluding that the healthcare professionals who are most exposed to violence are physicians (Eker, Topçu, Şahingöz, Özder, & Aydın, 2011).

Various cognitive theories have been developed to explain anger and aggression. Beck suggested that anger-related belief systems may stem from an individual's misinterpretations of conflicting social interactions (Beck, 1999). When the individual perceives the other's intentions negatively, they tend to protect and control the threatened or hurt self-image, which results in anger (Beck, 1999; Chereji, Pintea, & David, 2012). Moreover, the individual tries to motivate himself/herself with expressions such as "must" statements, which are cognitive distortions. It is possible to say that he thinks the same about the other person. The person thinks that the other person should also work under certain strict rules. The person exaggerates the consequences if these rules are not followed. This is a belief which implies that there is only one way to do something right (Türkçapar, 2018). He thinks that he should be punished if he does not do what he is expected to do, so he feels anger and resentment. This can mean having a very cruel attitude toward a healthcare professional. Such compelling statements cause the individual to experience pressure and tension (Hiçdurmaz & Öz, 2011). It was not surprising that these scores were positively correlated with state trait anger scores in our study.

On the other hand, all-or-nothing thinking means considering any situation in only two dimensions. It means the person's satisfaction or dissatisfaction with a situation. No neutrality can be discussed regarding those people. This distortion is a way of thinking that is found in a number of psychiatric disorders (Oshio, Mieda, & Taku 2016). It is possible for conflict to arise after events due to this way of thinking. In our study, subjective anger scale scores were found to be directly related to all-or-nothing thinking. This situation, together with the thought of the patients' relatives that the healthcare professionals do not fulfill the duties they should do, may cause their anger levels to increase. When this result is evaluated together with the studies that show that waiting in the hospital is a predictor of violence in health, it may lead the relatives of the patients to think that the staff are not fulfilling their duties (İlhan et al., 2013).

These two main findings suggest that there may be a linear relationship between being angry and cognitive distortions. Whether it is possible to reduce cognitive distortion

in society may also be a matter of debate. However, when violence, and especially violence in health, is at such a scale, it is very important to increase the alternative solutions that can be found in this regard with research. We believe that our study contributes to the clarification of this issue. In addition, the results of our study cause us to think about whether violence can be prevented with materials such as posters and videos that can be prepared to prevent cognitive distortions. In this context, it may be beneficial for new studies to focus on these prevention activities.

Another finding of our study is that the participants included in the study via BCTT were angry. This may be related to the fact that participants are in the emergency department and the condition of their patients. In addition, this anger state may be related to the interpretation of the situation in which individuals see themselves. Contempt and frustration cognitive distortions, which were previously shown to be associated with anger, may be causing this angry state (Chambers, Eccleston, Day, Ward, & Howells, 2008; Power & Dalgleish, 2015). In this case, the thought of individuals trying to protect and control their egos when they think that they are in danger may cause anger. Therefore, in future studies, it would be useful to examine in detail the cognitive distortions associated with the anger of those who wait in the emergency department.

There are several limitations in our study. The most important of these is the limited number of participants. The fact that many scales were applied to the participants may have caused the decrease in the number of participants. Fewer scales would have been preferred. It is considered that a larger sample will provide more reliable results. Moreover, simultaneous measurements of patients and their relatives could be conducted. In addition, it should not be forgotten that the scales applied to the participants are self-reported scales that may cause bias. However, obtaining some information from the participants, such as the waiting period in the emergency department and the illnesses of their patients, would have helped to better evaluate the results. In addition, the use of many scales in the study is another limitation. It should be kept in mind that the fact that only the parts of the scales were applied may be an obstacle to a comprehensive evaluation of the participants. The fact that the study was conducted in a restricted area stands out as another limitation that may affect the results of the study.

CONCLUSION

The present study reveals that some cognitive distortions cause an increase in anger levels in individuals with the potential to perpetrate violence against healthcare professionals. It may be useful to plan the necessary interventions to change these thoughts in order to prevent violence. In addition, measures can be taken by hospital administrations to increase awareness of these cognitive conditions. In addition, it may be beneficial to plan psycho-educational training for individuals who have committed violence. In the future, performing the present study with a larger sample and multiple centers will increase the reliability of the results.

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