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Anger and Temperament Characteristics of a Group of Health Workers: A Relational Analysis

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ABSTRACT

Anger and temperament characteristics of a group of health workers: a relational analysis

Objective: The aim of this cross-sectional, causal study was to determine the temperament characteristics, anger and associated variables of medical secretaries.

Methods: The study population included medical secretaries working in a university hospital. The sample of the study included 95 individuals who agreed to participate in this research. Study data were obtained using the Socio-demographic Data Form, Temperament and Character Inventory, Trait Anger Expression Inventory.

Results: Trait anger was higher in men and divorced ones. Outward anger was higher in individuals with higher level of education. A positive correlation was determined between inward anger and self-transcendence scores of participants. A negative correlation was determined between outward anger and self-transcendence, cooperation, persistence, reward dependence, harm avoidance, novelty seeking scores of participants. A positive correlation was determined between anger control and self-transcendence, cooperation, self-directedness, persistence, reward dependence, harm avoidance and novelty seeking scores of participants.

Conclusion: These results show that medical secretaries have high trait anger and lack means to express anger healthily.

Key words: Medical staff, anger, temperament characteristics, medical secretary

ÖZET

Bir grup sağlık çalışanında öfke ve mizaç özellikleri: İlişkisel bir inceleme

Amaç: Nedensel kesitsel türde planlanan bu araştırmada, tıbbi sekreterlerde öfke, mizaç özellikleri ve ilişkili değişkenleri belirlemek amaçlanmıştır.

Yöntem: Araştırmanın evrenini, bir üniversite hastanesinde çalışan tıbbi sekreterler oluşturmuştur. Örneklem, araştırmaya katılmayı kabul eden 95 kişiden meydana gelmiştir. Çalışmanın verileri Sosyodemografik Veri Formu, Sürekli Öfke-Öfke Tarz Ölçeği ve Mizaç ve Karakter Envanteri kullanılarak elde edilmiştir.

Bulgular: Sürekli öfke erkeklerde ve boşanmışlarda, öfkeyi dışa yansıtma eğitim düzeyi yüksek olanlarda daha yüksektir. Katılımcıların içe yönelik öfke ve kendini aşma düzeyleri arasında pozitif korelasyon bulunmuştur. Katılımcıların dışa yönelik öfke ve kendini aşma, işbirliği, sebat etme, ödül bağımlılığı, zarardan kaçınma, yenilik arayışı düzeyleri arasında negatif korelasyon saptanmıştır. Katılımcıların öfke kontrolü ve kendini aşma, işbirliği, kendini yönetme, sebat etme, ödül bağımlılığı, zarardan kaçınma ve yenilik arayışı düzeyleri arasında pozitif korelasyon vardır.

Sonuç: Bu sonuçlar, tıbbi sekreterlerin sürekli öfke düzeylerinin yüksek olduğunu ve öfkelerini sağlıklı olarak ifade etmede yetersizlik yaşadıklarını göstermektedir.

Anahtar kelimeler: Sağlık personeli, öfke, mizaç özellikleri, tıbbi sekreter

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INTRODUCTION

Individuals will encounter many problems in daily life and are forced to deal with them. These issues need to be resolved vary according to the personal characteristics and environment. The individual gives various emotional and behavioral reactions dealing with problems. One of these emotional reactions is anger (1.2). According to Novaco's model (3) anger as a reflection of feelings is the result of the interaction between behavioral factors, external events and cognitive arousal. Anger may occur as a result of the adverse effect of someone else's conduct. For example, if someone is angry and thinks that anyone else is responsible for this, anger and aggression may develop spontaneously. On the other hand, anger may develop as a result of exposing to an unfair or harmful action (4,5).

Anger expression varies individually. These styles are measured by the parameters such as inward anger, outward anger and the anger control (6). The inward anger reflects the tendency to suppress thoughts and feelings in which the anger originates; the outward anger reflects the tendency to show aggressive behavior towards the surrounding people or objects; the control of the anger reflects the ability of anger expression control (7.8). According to the classical psychoanalytic view, the suppression of anger is considered to direct the energy to inward and it has a role in the etiology of depression (5.9 to 11). As a reflection of depression in neurotic disorders, anger and irritability occur (4,8,12). In a depression study, the severity of depression was significantly higher in the patients having anger episodes than those without anger (13). Persistent or severe anger may cause low self-esteem, interpersonal and intra-family conflict, verbal and physical attacks, discrepancy at work by becoming destructive nature (2). In one study, dependent, avoidant, narcissistic, borderline and antisocial personality disorder comorbidity were found significantly higher in patients with anger attacks (10).

In addition to the personality, there are also some differences between the genders in terms of anger reactions. It has been determined that men express their anger relatively in a direct way but women express it indirectly (2). While extenuation, injustice, and blamed due to someone else's fault, selfishness, criticism lead to increased anger in women (2), negative self-perception increases the anger in men (14). On the other hand, it has been reported that anger reactions decrease with age. However, a study of young adult and adolescent group reported that anger reaction and behavior increased with increasing age (15). In studies of the impact of education on the anger expression, it has been determined that individuals with high educational level have low anger level because of cognitive comfort and ability in solving problems that can cause anger (16,17).

Expression of anger and its expression are often related to the interaction of workplace stress, organizational disturbances, autocratic management, workplace conditions, the status of the individual in the workplace, lack of participation in decision making, lack of competence, work environment, non-democratic, hierarchical and centralized nature of workplace, the existing leadership style, role ambiguity because of multiple roles, and individual's personality. Stress response is characterized by the quick response of sympathetic nervous system and release of noradrenalin and adrenaline from the adrenal medulla. If the answer to stress is not enough to end the stress or stress lasts longer, it may be costly for the organism to reach the physical and mental equilibrium so that individual manifests anxiety symptoms. This price is called as 'allostatic load' (18). According to the Lazarus's transactional stress model (19), the emotional reactions that occur in proportion to the nature and seriousness of the violence come along with the loss of anger control following the dynamic interaction between the individual characteristics and the coping processes. Stressful events are relatively higher in some work environments than the others and some people also experience them more intensely than others (18,20). In particular, a more intense stress is experienced by ruminative personality. Work-related unresolved issues, repetitive mental occupation (rumination) push the individual away from the work psychologically. Deterrent and persistent way of thinking about the experiences leads to manifest in maladaptive cognitive processes. Previous studies also revealed that the different types of ruminative thoughts are available (21,22). One of them is the anger rumination which involves revenge and often develops under the workplace pressure and intimidation (21). Studies demonstrated that the ruminative people who experience the stress intensively suffer from health problems, negative life events and usually restlessness, tension, anger, anxiety, depression (18,20).

A hospital where the intense workplace stress is experienced is full of frustration and restrictions for employees especially having low status and low income. After these frustration and restrictions most common emotion is anger (2,24,25). Although the dangers of the workplace are available for all employees, medical secretaries are the vulnerable risk group because of the reasons such as lack of education and status (26-28). Exposure to extreme events such as insult or injustice may lead to outrage (29). For these reasons, it

is considered that medical secretaries as a part of the health care team experience anger by means of working in a stressful environment and it is expected that this anger differentiates according to the personality traits and demographic characteristics. To increase the awareness which contributes improving the quality of hospital services, the association between these two variables was assessed. In this regard, this study was designed to determine the anger and temperament characteristics of medical secretaries by certain socio-demographic variables and to evaluate the relationship between these two variables.

METHOD

Sample

The study is designed as a causal and cross-sectional research. After obtaining permission, research data was collected from medical secretaries working in Ege University Medical Faculty Hospital and agreed to participate in research between March-June 2008. The study used no sample selection method. The study universe consisted of 113 medical secretary, but 5 of them refused to participate asserting the possibility of institutional pressure. Data from 3 subjects were excluded because of incorrect or incomplete coding. Thus, 95 subjects completed the study.

After receiving official permission from university, informed consent was taken from the participants. This form includes ethical codes of the universal declaration of human rights.

Assessment Tools

Socio-Demographic Data Form: It includes subject characteristics such as age, gender, education level, marital status.

The State-Trait Anger Scale (STAS): The STAS is a self-report scale assessing the state-trait anger. It was developed by Spielberger (6) in 1983 and validity and reliability of the scale were performed by Özer (30). STAS includes 4 subscales (anger-in, anger-out, anger-control and trait anger) and 44-items. During the assessment of the scale, responses of "not defined", "little defined", "rather defined" and "completely defined" take 1, 2, 3, and 4 points, respectively. The lowest score in anger-in, anger-out, and anger-control subscales can be 8 and the highest score can be 32; the lowest score in trait anger subscale can be 10, the highest score can be 40. But the overall total score of the scale is not feasible and each subscale has own total score. High score of trait anger subscale means high level anger; high score of anger-control subscale means anger control; high score of anger-out subscale means easily anger expression; high score of anger-in subscales means repressed anger (28).

The Temperament and Character Inventory (TCI): TCI is a 240-item, true-false, self-report questionnaire (31). It can be filled in 20-30 minutes without tine restriction. The validity and reliability of this seven dimensional character inventory have been tested both in general population and in psychiatric patients. TCI can be used for subjects at least 15 years old because of the content. TCI includes four dimensional personality (or temperaments) questionnaire of novelty seeking, harm avoidance, reward dependence and persistence, and three character dimensions of self-directedness, cooperativeness, and self-transcendence. TCI has been translated in various languages and the psychometric features of TCI have been tested in various cultures. It has been translated in Turkish by Köse and after translation in English by Sayar, it was approved by Cloninger (31). Data on TCI validity and reliability was reported by Köse et al. (32).

Statistical Analysis

Research data were evaluated using SPSS 15.0 for Windows. Socio-demographic characteristics of patients are given as number, percentage distribution, mean and standard deviation in statistical assessments. Because the continuous variables used in the study showed a normal distribution according to the Kolmogorov-Smirnov normality test, STAS and TCI scores differences by socio-demographic variables have been determined by Student's t test (effect size, Cohen's d) and ANOVA test. To determine the differences

between the groups post hoc test with Bonferoni correction was used. For abnormal distribution analysis (receiving psychological support, psychological support type, approach to patients), Kruskal-Wallis, Mann-Whitney U tests were used. Correlation between the STAS and TCI scores was assessed by Pearson's correlation test. All statistical comparisons, two-sided significance level $p < 0.05$ was determined.

RESULTS

Mean age of the study subjects was 29±5.7. 41.2% of the population was in 20-24 age group. 69.5% of the participants were women, 30.5% of the participants were male, 58.9% of the participants were married, 30.5% of the participants were single, 10.5% of the participants were divorced, 53.1% of the participants had child and 46.9% of the participants had no child. Participants responded their financial situation as "high" (44.9%); "low" (38.8%) and "medium" (16.3%). 77.6% of medical secretaries reported that they receive no psychological support. Psychological support was reported as drug treatment (12.2%) and psychotherapy (10.2%). The question of "Do you have difficulties in the workplace?'' was responded as "feeling of inadequacy and work overload" (4.1%); "problems with colleagues" (49%), "work overload" (44.9%) and "problems related to work" (46.9%). 71.4% of participants reported that they were "moderate, tolerant" towards patients. They also reported that they resolve the workplace issues by talking / discussing (28.6%) (Table 1).

Regarding to the STAS scores, mean "anger-in" subscale score was 8.25±4.18, mean "anger-out" subscale score was 8.92±5.35, mean "anger-control" subscale score was 11.35±5.42 and mean "trait-anger" subscale score was 11.25±5.34. Regarding to the mean TCI scores for "self-directedness" subscale was 24.08±7.87; for "cooperativeness" subscale was 24.10±7.01, "self-transcendence" subscale was 19.41±5.00, "reward dependence" subscale was 14.02±4.88, "persistence" subscale was 4.43±1.79, "harm avoidance" subscale was 19.37±5.63 "novelty seeking" subscale was 21.71±6.07 (Table 2). The highest

Table 1: Socio-demographic characteristics of patients

Parameter	Number	%
Age		
20-24	38	41.2
25-29	12	12.6
30-34	20	21.0
35-39	14	14.7
≥40	11	11.5
Gender		
Female	66	69.5
Male	29	30.5
Marital status		
Married	56	58.9
Single	29	30.5
Divorced	10	10.5
Education		
Primary	30	31.6
High school	30	31.6
College	15	16.8
Faculty	20	21.0
Psychological support		
Yes	21	22.4
No	74	77.6
Psychological support type		
No	74	77.6
Psychotherapy	10	10.2
Pharmacotherapy	11	12.2
Attitude towards patients		
Moderate, tolerant	68	71.4
Anger	27	28.6
Total	95	100

Table 2: Mean State Trait Anger Scale and Temperament and Character Inventory scores of participants

Subscales	Mean	Standars Deviation
STAS		
Anger-in total	8.25	4.18
Anger-out total	8.92	5.35
Anger-control total	11.35	5.42
Trait anger total	11.25	5.34
TCI		
Self-directedness	24.08	7.87
Cooperativeness	24.10	7.01
Self-transcendence	19.41	5.00
Reward dependance	14.02	4.88
Persistance	4.43	1.79
Harm avoidance	19.37	5.63
Novelty seeking	21.71	6.07

STAS: State Trait Anger Scale; TCI: Temperament and Character Inventory

Table 3: Mean State Trait Anger Scale scores by gender

	Female (n=66)	Male (n=29)		
State Trait Anger Scale	**Mean±S.D.**	**Mean±S.D.**	**t**	**p**
Anger-in	8.09±4.05	8.34±4.06	0.281	0.779
Anger-out	8.39±5.29	10.55±4.98	1.86	0.066
Anger-control	11.27±5.82	11.44±4.10	0.147	0.884
Trait-anger	10.39±5.15	13.06±5.48	2.282	0.025

t: Student t test, S.D.: Standard Deviation

scores in self-transcendence subscale were recorded in ≥40 years old group. The lowest scores in cooperativeness, self-directedness and novelty seeking subscales were also recorded in ≥40 years old group.

The assessment of TCI scores by age with Pearson's correlation analysis revealed that age had positive correlation with the self-transcendence sub-dimension (r= 0.253, p<0.01) and negative correlation with the co-operation (r= -0.354, p= 0.04), the self-directedness (r=-0.476, p= 0.002) and novelty seeking sub-dimensions (r= -0.534, p<0.001). Looking at the scores from STAS, anger-in scores increased with increasing age (r= 2.59, p= 0.041). In STAS anger-in scores increased by age (r= 2.59, p= 0.041).

TCI sub-scale scores by gender were assessed but no significant differences were noted between the sexes (p>0.05). However, in STAS scores, trait anger subscale scores were significantly higher in men (t= 2.282, p=0.025) (Table 3).

TCI sub-scale scores by marital status were assessed and the highest scores of novelty seeking sub-dimension have been found in divorced subjects (F= 5.71, p=0.005). In STAS trait anger (F= 3.98, p= 0.002), the anger-control (F= 5.29, p= 0.007), and the anger-in (F= 3.62, p= 0.043) subscales the highest scores were found in divorced subjects by the post hoc Bonferroni test.

Assessment of TCI and STAS scores by educational level revealed that TCI scores had no change by educational level but STAS anger-out (F= 2.40, p=0.018) and trait anger (F= 2.01, p= 0.046) subscales scores demonstrated significant difference. According to the results of post hoc Bonferroni test, the anger-out and the trait-anger scores were higher in participants with college and university education than those with high school education or less.

No significant differences were found in mean STAS scores by psychological support (z=0.102, p>0.05), psychological support type (χ^2=0.060, df=2, p>0.05) or attitude towards patients (z=0.253, p>0.05).

Assessment of the correlation between the TCI and the STAS scores revealed that there was a positive correlation between the STAS anger-in subscale and TCI self-transcendence subscale (r= 0.240, p= 0.019); there was a negative correlation between the STAS anger-out subscale and TCI self-transcendence (r=-0.272, p= 0.008)/ cooperation (r=- 0.285, p= 0.005)/ persistence (r= -0.252, p= 0.014)/ reward dependence (r= -0.256, p=0.012)/ harm avoidance (r= -0.268, p=0.009)/ novelty

Table 4. The correlation between the State Trait Anger Scale and Temperament and Character Inventory scores

	Temperament and Character Inventory						
STAS	**Self-directedness**	**Cooperativeness**	**Self-transcendence**	**Reward dependance**	**Persistance**	**Harm avoidance**	**Novelty seeking**
	r	**r**	**r**	**r**	**r**	**r**	**r**
Anger-in	0.20	0.16	0.24*	0.18	0.16	0.08	0.12
Anger-out	-0.19	-0.29**	-0.27**	-0.26*	0.25*	-0.27**	-0.20*
Anger-control	0.35**	0.47**	0.28**	0.57**	0.32**	0.46**	0.40**
Trait-anger	0.08	-0.05	0.06	0.03	-0.15	0.08	0.10

STAS: State Trait Anger Scale, *p<0.05, **p<0.01

seeking (r= -0.204, p= 0.047) subscales; there was a positive correlation between the STAS anger-control subscale and TCI self-transcendence (r= 0.280, p=0.006), cooperation (r= 0.470, p<0.001), self-directedness (r=0.350, p= 0.001), persistence (r=0.317, p= 0.000), reward dependence (r= 0.574, p=0.000), harm avoidance (r= 0.464, p= 0.000) and novelty seeking (r= 0.398, p<0.001) (Table 4).

DISCUSSION

In our study population including medical secretaries, we found the positive correlation between the anger-in and self-transcendence and negative correlation between the anger-out and self-transcendence, cooperation, persistence, reward dependence, harm avoidance, and novelty seeking; the positive correlation between the anger-control and self-transcendence, cooperation, self-directedness, persistence, reward dependence, harm avoidance and novelty seeking. It has been determined that anger-in scores increased with age, the trait anger scores were higher in male; the trait anger scores were higher in subjects with college and university level education than in those with high school or less; the trait anger and the anger-in scores were higher in divorced subjects. No significant differences in anger expression by psychological support, psychological support type or attitude towards patients.

It has been found that the increased anger-in scores with age, high trait anger scores in men, higher anger-out and trait anger scores in subjects with higher education level and higher trait anger and anger-in scores in divorced subjects. The anger expression had no difference by psychological support, psychological support type and the attitude towards patients in medical secretaries.

Anger and its expression in the workplace are closely related to the hierarchical position and professional status of the subject. Strict and threatening organizational climate which never allow the democratic process is the major stress factor. Hierarchical organizations are the stress factor because these organizations have formal hierarchical relations and the subject constantly feels pressure and fear of punishment (33,34). Especially in strict and authoritarian hierarchical structures, strict and formal relations, and the effort to satisfy the superiors underlie for anxiety and depression (35). Especially when junior employees are exposed to criticism or attacks they feel anger and prefer to withdraw; after the event they prefer to re-establish the balance or continue to withdraw (36). In these situation, the junior employees accumulate anger (trait anger), anger control and suppression of anger. In our study we found high trait anger, inward anger and anger control in medical secretaries. On the other hand, not to express anger and inability to control of anger may cause some difficulties. In this case, conflicts of interpersonal communication, verbal and physical assaults, and discrepancies in workplace may arise (36-38). Because of the negative results of anger as well as the cultural reasons, people fear to feel anger and not to prefer to show it(39). In our study, some of the medical secretaries rejected to participate to the study considering the corporate pressure. This study also showed the impact of the social causes on anger.

It has been reported that the awareness of emotions and especially negative emotions decrease with age (40.41). Decrease in the level of anger reported in the literature with increasing age (42.43). In our study we found the increased inward anger with age in medical secretaries.

Studies show that the mode of anger expression varies according to the gender (2,44,45). There are differences in terms of blow-out situations, anger level and anger expression between men and women (39). Several studies about the effect of gender on expressing anger indicated that women direct the anger-in and it manifests as depression and self-harm behavior; men express their anger directly (46-48). In our study, we found that the level of trait anger showed differences by gender and it was significantly higher in men. A similar result were reported by Yöndem and Knives (49) and it was stated that the men had higher levels of trait anger. Having higher levels of trait anger of men may be due to socio-cultural structure and characteristics of the patriarchal society. In our culture, it is admitted that boys are hardy, predatory and pugnacious and girls are

submissive, obedient without verbal expression (50). In this study, the influence of traditional attitudes has also emerged.

Marital conflicts are one of the common important issue for mental health professionals. In one study examining the problem-solving skills, the attitude of submissive behavior and the anger in couples with marital problems during the divorce, the level of trait anger and anger-control were constantly high in women (51). Despite the married women have marital conflicts it has been determined that married women were happier than the divorced or never married women. It has been reported that divorced women particularly in the early years of divorce experience a lot of difficulties and their initiation and autonomy are replaced by low self-esteem and anger. This anger was often directed inward (52). In our study, divorced subjects have higher level of trait anger, anger control and inward anger.

According to our study, education level of medical secretaries had created significant differences in trait-anger and outward anger; medical secretaries with high levels of education reflected higher levels of trait anger and outward anger. A similar result regarding to the outward anger was reported by Meffert et al (53) and it is stated that trait anger increases with higher education level. Another study was also reported the similar result (2).

The high correlation was found between the outward anger and personality. A type of behavior can be effective especially in the manner of anger expression (30). It was reported that the subjects with Type A behavior characteristics were impulsive and they act without thinking of their results and they reflect their anger outward (39). In our study, we found the correlations between the temperament characteristics and forms of anger expression. Increased self-transcendence, cooperation, persistence, reward dependence, harm avoidance and novelty seeking caused to decrease outward anger and to increase anger control in medical secretaries participated in the study. This result shows that subjects having characteristics such as patience, cooperativeness, eagerness to self-renewal and harm-avoidance try to control their anger without anger outward. Individuals with high levels of harm avoidance are described as passive, unassured and pessimistic. Individuals with high novelty seeking are described as non-monotonic and impulsive (31). From this perspective, it is expected to reflect their anger outward.

In one study, it was found an inverse correlation between the type A behavior pattern and anger control. It has reported that in individuals with type A behavior pattern, the level of competition, ambition, impulsiveness, impetuosity, hostile/aggressive behavior were high (39). Thus, our result seems consistent with the literature.

Individuals with high self-management capability are the subjects having self-confidence, responsibility and integrativity (54.55). Individuals with low self-management capability have low autonomy, leadership and coping skills (31). In our study, the higher the level of self-management caused higher control levels. It may be said that the result was compatible with the literature. It has been reported that subjects having anger control difficulty were also having depression and negative self-perception (56). In another study it is indicated that anger control is low in anxious, impatient, neurotic individuals who are prone to experience negative emotions (57).

However, the study has some limitations. First, the number of employees constituted the study group is relatively low and a specific working group was included in the study; these make generalization of the results difficult. Another limitation of the study was to use self-reporting scales. The third limitation of this study was to be focused only on anger but not the results of anger. The fourth limitation is the lack of comparison between different health working groups with similar demographic characteristics.

CONCLUSION

In our study population, medical secretaries, high levels of trait anger, anger control and anger suppression were found. Also they had inability to express their anger in a healthy way. It has been determined that expression of anger are affected by personality and the subjects having characteristics such as patience,

dependence, collaboration, eagerness to self-renewal and harm-avoidance try to control their anger without anger outward. It has been found that the trait anger was higher in men and subjects who divorced and having high education level. The anger control was high in people assessing themselves as "calm". The anger suppression and novelty seeking were high in divorced subjects. The outward anger was high in subjects with high education level. Based on these findings, for medical secretaries it can be recommended to participate in anger management training to gain a healthy way of anger expression and to recognize the temperament and behavior characteristics having adverse effects on their anger experiences. In addition, in the service sectors in which the human is an important factor for the service quality and the performance of cognitive judgement (decision making, retrospective analysis) is a main tool during the service, administrative approach which is democratic, collaborative, flexible, fair and encouraging to share the responsibilities is important to decrease psychosocial stressors. For health care workers, verbal and nonverbal skills training will help negative emotions especially in interpersonal relationships. This study was a pilot study in order to determine the relationship between anger and temperament characteristics in a single occupational group. Research is limited to a small study group and certain variables were studied; similar studies in larger study groups of different profession (other occupational groups, or similar health care employees with or without stress) with different variables (sadness, guilt, burn-out, mobbing, self-esteem) may be designed by comparing.

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