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Research Article

The effects of physical activity on anger expression style in healthcare professionals

Sağlık çalışanlarında fiziksel aktivitenin öfke ifade tarzına etkisi

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Abstract

Individuals engage in physical activity to protect their health and meet the conditions for a healthy life. According to the Turkish Language Association, anger is an aggressive response to frustration, hurt or inhibition, rage, fury and wrath. Although the resulting situation differs from person to person, it can vary from the simplest to the most intense anger. For this reason, anger is evaluated according to how it is expressed. It varies from person to person, which can be stated as anger in, anger out and anger control. Healthcare professionals work in stressed environments as a result of the work they do. They are also exposed to anger and violence from time to time. They manage their anger expression styles due to caring for human life. This study examines the effects of physical activity on anger expression styles in healthcare professionals. According to the results of the study, it was found that male healthcare professionals had higher anger expression styles when compared with female healthcare professionals. It was also found that healthcare professionals who were not engaged in sports had higher anger levels and expression styles. Another result was the higher anger and expression styles of healthcare professionals who smoked and used alcohol. According to the results of the study, healthcare professionals' anger control styles which result from their characteristics, can be balanced with the training given to them. Decreasing cigarette and alcohol use will be important in balancing anger styles. In order to balance the anger expression styles of healthcare professionals, sports fields can be created where they can do physical activity.

Keywords: Physical Activity, Anger Expression Style, Healthcare Professionals

Jel Codes: I12, M10, M12

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Öz

Bireyler hem sağlıklarını korumak ve geliştirmek hem de zinde bir yaşam için gerekli koşulları sağlamak için fiziksel aktivite yapmaktadırlar. Öfke ise TDK'ya göre; engellenme, incinme veya gözdağı karşısında saldırganlık tepkisi, kızgınlık, hışım, hiddet, gazap olarak tanımlanmaktadır. Burada ortaya çıkan durum bireyden bireye farklılık göstermekle beraber, en basitinden en yoğun öfkeye kadar değişebilmektedir. İşte bu nedenle öfke ifade ediliş tarzına göre değerlendirilmektedir. Bireyden bireye değişen şekilleri vardır. Bunlar; öfke içe vurumu, öfke dışa vurumu ve öfke kontrolü olarak belirtilebilir. Sağlık çalışanları yaptıkları işin gereği olarak stresli bir ortamda çalışmaktadırlar. Aynı zamanda öfke ve şiddet olaylarına da zaman zaman maruz kalmaktadırlar. Kendileri de insan hayatı ile ilgilenmenin bir sonucu olarak öfke ifade tarzlarını kontrol etmektedirler. Bu araştırmada sağlık çalışanlarında fiziksel aktivitenin öfke ifade tarzlarına etkisinin incelenmesi amaçlanmıştır. Araştırma sonuçlarına göre; erkek sağlık çalışanlarının kadın sağlık çalışanlarına göre öfke ifade tarzlarının daha yüksek olduğu tespit edilmiştir. Ayrıca spor yapmayan sağlık çalışanlarının öfke düzeyleri ve ifade tarzlarının daha yüksek olduğu sonucu ortaya çıkmıştır. Bir diğer sonuç ise sigara ve alkol kullanan sağlık çalışanlarının öfke ve ifade tarzları daha yüksek olarak bulunmuştur. Araştırma sonuçlarına göre; sağlık çalışanlarının kendi bireysel özelliklerinden kaynaklanan öfke ifade tarzlarının yoğunluğu onlara verilebilecek eğitimler ile dengelenebilir. Sigara ve alkol kullanımının azaltılması, öfke tarzlarının dengelenmesi açısından önemli olabilecektir. Sağlık çalışanlarının öfke ifade tarzlarını dengeleyebilmek için, fiziksel aktivite yapabilecekleri spor alanları oluşturulabilir.

Anahtar Kelimeler: Fiziksel Aktivite, Öfke Ifade Tarzı, Sağlık Çalışanları

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Introduction

Policy changes should address high psychosocial demands in the health sector at a structural level. However, until these changes occur, behavioural prevention must be established to help healthcare professionals cope with the existing stressors. A possible solution can be physical activity. The benefits of regular physical activity on general health, especially lifestyle-related health problems such as obesity, cardiovascular disease and diabetes, have been well-researched (Bischoff, Otto, Hold, Wollesen, 2019, p.101).

Physical activity has a strong effect on health. World Health Organization (WHO) has determined that physical inactivity is the fourth leading global risk for death. Furthermore, it is responsible for increasing the risk of non-contagious diseases and affecting countries of all income groups. It is estimated that globally physical inactivity causes 6% of the disease burden resulting from coronary heart disease, 7% of the disease burden resulting from type 2 diabetes, 10% of the disease burden resulting from breast cancer and 10% of the disease burden resulting from colon cancer (Murtagh, Shalash, Martin, Abu Rmeileh, 2021, p.129).

World Health Organization physical activity guidelines define appropriate levels of physical activity required to improve health. It has been shown that meeting physical activity guidelines is essential in terms of contributing to economic, social and cultural benefits in addition to preventing diseases and increasing prosperity, physical and mental health and quality of life (Bengoechea, Clifford, Gallagher, Regan, O'Sullivan, Casey, Glynn, Macken, Sweeney, Donnelly, Murphy, Woods, 2021, p.1).

Physical inactivity is a leading global risk factor for morbidity and early mortality. Moreover, there is strong evidence that physical activity has many physical and mental health benefits in addition to reducing the risk of depression and anxiety (Petersen, Kemps, Lewis, Prichard, 2021, p.1).

Due to the positive effects of physical activities, it is essential to maintain the motivation to stick with physical activity, especially in difficult situations or life (Bentzen, Brurok, Roeleveld, Hoff, Jahnsen, Wouda, Baumgart, 2021, p.2).

Healthcare professionals have a stressful and intense working tempo due to their work and environment. While working in these stressful environments, their anger and expression styles can differ significantly. Some methods can be applied to anger management. Practices that improve anger control and reduce anger will benefit practitioners and should be recommended. Physical activity is one of these practices because it has been shown that neurotransmitter synthesis in serotonin has an inducing effect and plays a vital role in preventing anger and aggression. Despite these, the relationship between sports and anger is not clear. Some authors emphasize the differences between many types of sports and associate the athletes practising these sports with aggressive behaviours. Other authors confirm that aggression displayed outside sports often reflects violence in sports (Lafuente, Zubiaur, Guti´errez-García, 2021, p. 1).

Anger is a natural emotion that results from environmental problems and causes frustration with personal needs or threats. It is a subjective and adaptable emotion ranging from subtle frustration or sadness to intense anger (Kim, Choi, Yeom, 2019, p.86). Higher levels of anger are reported in schizophrenia and are associated with worse outcomes, including anger, violence and aggression. Despite the importance of anger in understanding outcomes of psychosis and risk, it has not been researched yet (Darrell-Berry, Bucci, Palmier-Claus, Emsley, Drake, Berry, 2017, p. 132).

Suppressing anger and expression have been defined as how individuals typically manage their anger. Here, the expression of anger refers to the overt display of verbal and/or physically aggressive behaviours. For this reason, anger expression can have more negative than positive effects as catharsis (Koh, Kim, Kim, Park, Han, 2008, p. 73). Anger and trait of anger can be primary predictors of aggressive behaviour. A reactive form of relational aggression is positively associated with trait anger, feelings of distress, and at the same time, expression of anger (Moron and Moron, 2021, p.2). Inadequate management of anger, which occurs when individuals do not adequately contain difficult emotional experiences to continue engaging in goal-oriented behaviour and inhibit impulsive behaviour, clearly predicts aggressive behaviours (Moron et al., 2021, p.2).

Once anger arises, it manifests in ways designed to counter or correct injustice. As mentioned in State-Trait Anger Scale, one aspect of anger is anger-out. Recently, this has been expanded to include six dimensions of anger expression: direction, position, reaction, modality, impulsivity and purpose (Fernandez, Callen, Johnson, Gaspar, Kulhanek, Jose-Bueno, 2020, p. 2).

Anger is often a precursor to aggression and is affected by the complex interaction between many personal and environmental variables, including temperament and neurological and endocrine processes. Pre-anger state and evaluation process and external events that trigger memories and images can influence the internal experience of anger and resulting aggressive reactions. Anger can often be elicited by a relatively obvious external precipitator that can easily be defined by an individual (Yerlisu Lapa, Aksoy, Certel, Çalışkan, Özçelik, Çelik, 2013, p.1976).

This study examines the effects of physical activity on anger expression styles in healthcare professionals.

Material and method

In the study, results regarding the levels of State and Trait Anger Scale (STAS) subscales in terms of the state of participating in recreational physical activity, gender, smoking and alcohol use in healthcare professionals in the light of the statistical data obtained. 09.08.2021 dated and 2021-28 numbered approval was obtained from the Ethics Committee of Samsun University. 4 Likert's are used in this study, and data were collected through the google form.

Population and sample

The study was conducted with a total of 359 individuals, 210 female and 149 male-149 actively engaged in sports and 208 not engaged in sports, working in health institutions.

Data collection tools

Personal information form

The participants were asked questions to determine the individual characteristics of healthcare professionals and determine the independent variables of research content. The information in this section is as follows: Gender, cigarette use, alcohol use and whether participants are actively engaged in sports.

State and trait anger scale (STAS)

This inventory, which C.D. Spielberger developed in the early 1980s, includes 34 items. These 34 items have different distinctions within themselves (Öner, 1996). This scale was first translated into Turkish in 1994 and began to be used in our country. Unlike its original form, the part regarding the state anger subscale was not translated. With the Turkish translation of the remaining 44 items, 34 item form we used in the present study was developed. This Turkish form includes four factors: trait anger, anger in, anger out and anger control. The part of the scale used to question 10 is on the trait anger subscale. Questions 13, 15, 16, 20, 23, 26, 27 and 31 show anger-in subscale, questions 12, 17, 19, 22, 24, 29, 32 and 33 show anger-out subscale and the disposition to get aggressive. Finally, questions 11, 14, 18, 21, 25, 28, 30 and 34 aim to determine the frequency of managing anger (Savaşır and Şahin 1997).

In answering the questions in the scale, individuals are asked to choose from the options 'none', 'some', 'considerably' and 'completely' based on how much the items define them. The option 'none' is scored as 1, the option 'some' is scored as 2, the option 'considerably' is scored as three and the option 'completely' is scored as 4. High scores are taken from the scale items, which aim to determine trait anger and show that anger level is high. A high score from the part relating to controllable anger shows that anger can be controlled. In determining anger-out, the evaluation of answers to the related questions shows how easily anger can be expressed. The data in the last part of the scale are essential in determining whether anger is suppressed. Item total score correlations were found to test the scale's internal consistency between 0.14 and 0.56, while Cronbach Alpha values were between 0.73 and 0.84 (Öner, 1996).

The scale was developed as a 4 Likert-type scale, and in reliability studies of the test, Cronbach Alpha values obtained from all group data were calculated separately. These were found as 0.79 for the trait anger subscale, 0.84 for anger control, 0.78 for anger-out, and 0.63 for anger-in (Savaşır and Şahin 1997).

Reliability analysis results obtained for our study are shown in the table below.

Table 1: Reliability Analysis for Subscales

Subscales	Cronbach's Alpha(r)
Trait anger	0,804
Anger control	0,805
Anger-out	0,756
Anger-in	0,620

Since Cronbach's Alpha values are >0,6, it can be stated that the subscales are acceptable.

Data analysis

The data were analysed using SPSS 22,0 (SPSS Inc., Chicago, IL) statistical program. The data were presented as mean and standard deviation. In addition, an independent t-test was used to compare between groups. Statistical results were evaluated at a p<0,05 significance level.

Results

It was tested in our study whether anger expression styles of healthcare professionals who were engaged in sports and those who did not differ in terms of the variable of gender.

Table 2: Analysis of Anger Expression Styles by Gender

Variables	Gender	N	Mean ±S.D.	t	p
Trait anger	Female	210	20,55±4,68	-6,015	0,000
	Male	149	23,38±3,96		
Anger-in	Female	210	16,26±3,76	-6,370	0,000
	Male	149	18,90±4,02		
Anger-out	Female	210	47,91±9,73	-8,055	0,000
	Male	149	56,70±10,81		
Anger control	Female	210	20,19±4,55	0,485	0,628
	Male	149	19,97±3,89		

According to the analysis results (Table 2), a significant difference was found in the anger control subscale in terms of the variable of gender (p<0,05).

In other subscales, no significant difference was found between trait anger, anger-in and anger-out (p>0,05).

When the table is examined, it can be seen that male healthcare professionals had higher anger expression styles than female healthcare professionals. In other words, male healthcare professionals had lower anger control levels than female healthcare professionals.

Table 3: Analysis of Anger Expression Styles in Terms of the State of Doing Sports

Variables	State of doing sports	N	Mean ±S.D.	t	P
Trait anger	Yes	149	21,91±4,60	0,682	0,496
	No	208	21,57±4,63		
Anger-in	Yes	149	17,19±4,20	-0,540	0,590
	No	208	17,43±3,99		
Anger-out	Yes	149	51,01±11,07	-0,686	0,493
	No	208	51,82±11,03		
Anger control	Yes	149	19,22±4,42	-3,255	0,001
	No	208	20,70±4,10		

According to the analysis results (Table 3.), a significant difference was found in the anger control subscale in terms of the state of doing sports (p<0,05).

No significant difference was found in the subscales of trait anger, anger-in and anger-out (p>0,05).

When the table is examined, it can be seen that compared with healthcare professionals who did sports, healthcare professionals who did not do sports had higher anger expression styles in other subscales except the trait anger subscale. This result shows that healthcare professionals who did not do sports had higher anger levels and expression styles.

Table 4: Analysis of Anger Expression Styles in Terms of the State of Smoking

Variables	The state of smoking	N	Mean ±S.D.	t	P
Trait anger	Yes	109	23,23±4,65	4,170	0,000
	No	250	21,07±4,43		
Anger-in	Yes	109	18,43±4,15	3,349	0,001
	No	250	16,89±3,96		
Anger-out	Yes	109	55,13±11,11	4,123	0,000
	No	250	50,01±10,70		
Anger control	Yes	109	19,57±3,98	-1,545	0,123
	No	250	20,33±4,40		

According to the analysis results (Table 4), a significant difference was found in trait anger, anger-in and anger-out scales in terms of the state of smoking (p<0,05).

No significant difference was found in the anger control subscale (p>0,05).

When the table is examined, it can be seen that compared with healthcare professionals who smoked, healthcare professionals who did not smoke had higher anger expression styles in all variables except the anger control subscale. It was found that healthcare professionals who smoked had higher anger and expression styles.

Table 5. Analysis of Anger Expression Styles in Terms of Alcohol Use

Variables	Alcohol use	N	Mean ±S.D.	t	P
Trait anger	Yes	56	24,20±5,28	4,489	0,000
	No	302	21,26±4,33		
Anger in	Yes	56	19,14±3,78	3,639	0,000
	No	302	17,02±4,05		
Anger out	Yes	56	57,73±10,13	4,702	0,000
	No	302	50,38±10,86		
Anger control	Yes	56	20,95±4,08	1,704	0,102
	No	302	19,93±4,31		

According to the analysis results (Table 5), a significant difference was found in the trait anger, anger-in and anger-out subscales of the anger expression scale in terms of the state of alcohol use (p<0,05).

No significant difference was found in the anger control subscale (p>0,05).

When the table is examined, it can be seen that compared with healthcare professionals who did not use alcohol, healthcare professionals who used alcohol had higher anger expression styles in all variables except the anger control variable. In other words, it was found that healthcare professionals who used alcohol had higher anger and expression styles.

Discussion and conclusion

In this study which examined the effects of physical activity on anger expression style in healthcare professionals, it was found that male healthcare professionals had higher anger expression styles. Conversely, female healthcare professionals were found to have higher anger control levels. In a study, the results were similar to ours. It was found that male participants showed more trait anger than female participants (Ata and Akman, 2012, p.5166).

Our study found that healthcare professionals who did not do sports had higher anger expression styles except for the trait anger subscale. Therefore, another study aimed to define exercise behaviour, anger

level and the nature of anger expression and examine the relationship between these variables in hospital nurses in South Korea. In a study conducted by Kim et al. (2019), the relationship between nurses' exercise behaviour and anger was shown, and evidence was provided relating the behaviour of regular exercise as an anger management strategy. For this reason, nurses should be aware that it is better to control their anger rather than suppress it in terms of mental health. As a result, it was found that nurses who had normal exercise behaviour showed lower anger and higher anger control when compared with nurses who did not exercise regularly. Furthermore, it was found that exercise behaviour had a positive effect on reducing anger and stress control. The results of this study and our study are in parallel with the results of previous studies (Kim et al., 2019, p.89).

According to the other significant results of our study, anger expression style was higher in healthcare professionals who smoked and used alcohol. However, such studies are not at a sufficient level yet among healthcare professionals. Therefore, it is essential to examine the effects of some factors affecting health negatively on anger expression style in a more comprehensive and detailed way in the future.

In a study conducted by Yamaguchi et al. (2017), the effects of anger regulation on physical health states in different cultural contexts were examined. It has been shown that physical activity at certain levels is essential in terms of individuals' anger-in or suppression, anger-out or anger expression and control (Yamaguchi, Kim, Oshio, Akutsu, 2017, p.245).

Healthcare professionals should be supported in their resilience to inevitable occupational stress. Another study by Bischoff et al. (2019) aimed to research whether physical activity interventions effectively reduce stress. As a result, it was found that healthcare professionals' mind-body practices, such as yoga or qigong, positively affect stress (Bischoff et al., 2019, p.101).

Due to the unique characteristics of delivery of healthcare services, for professions that are important in in-patient care, sufficient practical communication training should be provided in these professions for full communication with patients away from anger. Providing this training before starting the profession will enable healthcare professionals to be prepared. Mert, Demirkıran & Adana (2019) concluded that planning anger management and communication skills training would positively affect nursing students (Mert et al., 2019, p. 129).

For the motivation of healthcare professionals and effective delivery of services, it is essential to create working environments in which healthcare professionals will feel comfortable and enable them to do physical activities to reduce stress. Such topics can be examined in detail for future studies.

According to the results of our study, the intensity of anger management styles of healthcare professionals that result from their characteristics can be balanced with training provided to them. Reducing the use of cigarettes and alcohol can be important in terms of balancing anger styles. However, considering that healthcare professionals who do a physical activity can control their anger expression styles in a more balanced way, sports areas where they can do physical activities can be created for healthcare professionals. Sufficient time should be provided for this physical activity.

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