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Social Phobia In Patients With Coccydynia

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Abstract

Purpose: Coccygeal pain is a painful condition in the coccyx region that affects the quality of life, and many physiological and psychological factors play a role in its etiology. Social phobia is an important behavioral disorder that prevents individuals from being in many social environments, reduces their quality of life, and distracts them from building interpersonal relationships. While conducting this study, we aim to examine the social phobia status of the patients who applied with the complaint of coccydynia and to determine the emotional symptoms and negative consequences of social phobia that occur with the disease.
Material-Method: 40 patients aged 25-50 years completed the study. 40 healthy individuals with similar demographic characteristics and who applied on the same dates were taken as the control group. The participants were evaluated through the physical examination and radiographic examinations. Those who had coccyx pain for at least 3 months and those who had pain triggered by sitting on the coccyx, standing up from a sitting position, defaecation, and coitus met the criteria for admission to the study. The pain levels of our patients were classified according to the visual pain scale (VAS) score. The Liebowitz Social Anxiety Scale was applied to evaluate social phobia. Calculations were made with SPSS 18 (SPSS, Chicago, Ill., USA).
Findings: As a result of the Pearson correlation analysis conducted to examine whether there is a significant relationship between social phobia score and VAS score in the scope of our study, a weak correlation relationship was found between the variables. It was observed that there was no significant difference between the social phobia score and the VAS score in the gender groups.
Result: It is obtained that according to the results, it was found that the social phobia score did not change in the case and control groups. There is a weak correlation between the VAS score and the social phobia score. We believe new studies are needed in patients with different pain levels and disease severity.

Keywords: coccydynia, social phobia, anxiety

ÖZET

Amaç: Koksigeal ağrı, koksiks bölgesinde, hayat kalitesini etkileyen ağrılı bir durumdur ve etiyolojisinde fizyolojik ve psikolojik pek çok faktör rol oynamaktadır. Sosyal fobi bireyi birçok sosyal ortamda bulunmaktan alıkoyan, yaşam kalitesini azaltan, kişilerarası ilişkiler kurmaktan uzaklaştıran önemli bir davranış bozukluğudur. Bu çalışmayı yaparken amacımız koksidini yakınması ile başvuran hastalarda, sosyal fobi yaklaşımlarını inceleyerek bu yaklaşımların hastalıkla birlikte ortaya çıkan duygusal belirtilerini ve olumsuz sonuçlarını tespit etmektir.
Materyal Metot: Yaşları 25-50 arası olan 40 hasta çalışmayı tamamladı. Aynı tarihlerde başvuran ve demografik özellikleri benzer 40 sağlıklı birey kontrol grubu olarak alındı. Katılımcılara fiziki muayene ile birlikte radyografik incelemeler yardımı ile değerlendirildi. En az 3 aydan beri koksiks ağrısı olanlar ve koksikste oturmakla, oturur pozisyondan ayağa kalkmakla, defekasyon ve koitusla tetiklenen ağrısı olanlar çalışmaya alınma kriterlerini karşıladı. Hastalarımız ayrıca ağrı düzeyleri vizüel ağrı skalası (VAS) skoruna göre göre sınıflandırıldı. Sosyal fobinin değerlendirilmesi için Liebowitz Sosyal Kaygı Ölçeği uygulandı. Hesaplamalar SPSS 18 (SPSS, Chicago, Ill., USA) ile yapıldı.
Bulgular: Çalışmamız kapsamında; sosyal fobi puanı ve VAS puanı arasında anlamlı ilişki olup olmadığını incelemek amacıyla Pearson korelasyon analizi sonucunda değişkenler arasında zayıf bir korelasyon ilişkisi

bulunmuştur. Cinsiyet gruplarında sosyal fobi puanı ve VAS puanı arasında anlamlı bir fark olmadığını gözlendi.
Sonuç: Elde edilen bu sonuçlar doğrultusunda vaka ve kontrol grubunda sosyal fobi puanının değişmediği bulunmuştur. VAS puanı ve sosyal fobi puanı arasında zayıf bir korelasyon vardır. Farklı ağrı düzeylerine ve hastalık şiddetine sahip hastalarda yapılacak yeni çalışmalara ihtiyaç olduğuna inanmaktayız.
Anahtar Kelimeler: koksidini, sosyal fobi, kaygı

1- INTRODUCTION

Coccydynia, or coccygeal pain, is a painful syndrome that affects the coccyx region. It was described by Petit in 1726. Simpson, an obstetrician, made the first accurate clinical description in 1859. Although the average starting age is 40, it can affect individuals of all ages and genders (1).
The actual incidence of coccydynia is unknown, but female gender and obesity are the most critical risk factors for coccydynia (2). It is five times more common in women than men, while it is more common in adolescents and adults than in children (3).
Coccydynia can affect a person's quality of life, and there may be difficulties in its treatment since many physiological and psychological factors are influential in forming pain (4).
When looking at the anatomy of the coccyx, it is the most terminal segment of the spine. It is a triangular bone consisting of three or five vertebral segments. The first coccygeal segment is the largest, has transverse processes that can articulate or fuse with the sacrum, and is often separate from the increasingly smaller caudal coccygeal vertebrae (5).
The most important etiological factors in the formation of coccydynia are external and internal trauma. External trauma is caused by falling on the back, coccyx dislocation, and fracture; internal trauma occurs in difficult births.
Degenerative joint or disc disease, hypermobility or hypomobility of the sacrococcygeal joint, infectious causes such as tuberculosis and osteomyelitis, and various coccygeal morphologies are the causes of non-traumatic coccydynia. Coccydynia can also occur due to radicular or reflected pain. Somatization disorders and other psychological disorders can cause coccydynia (6).
Patients have complaints of pain around the coccyx without severe low back pain. The pain generally increases when sitting and getting up from a sitting position (4). In addition, there is also pain during defecation and sexual intercourse (5). A study has shown a relationship between symptoms of behavioral disorders and spontaneous or induced pain in the coccygeal region. Accordingly, in patients with coccydynia or coccygeal and paracoccygeal muscle pain, a significant relationship was found between behavioral disorder and induced pain. However, there was no correlation between the degree of coccydynia and the symptoms of behavioral disorders (7).
Coccydynia diagnosis includes a detailed history, physical examination, diagnostic tests, and imaging methods. First, a detailed anamnesis of patients with coccydynia should be taken in terms of a history of falls, trauma, and sitting on hard ground. In addition, the patient should also be evaluated for abnormal personal behavior or psychological disorders such as anxiety and depression (7).
Because the incidence of low back pain simultaneously with coccydynia is higher than in the general population, a physical examination should include the sacroiliac joint, lumbar spine, and pelvis (8).
The lumbosacral vertebra, the pelvis graph, and the lateral coccyx graph should be taken during radiographic examinations. Radiographs can be used to evaluate fractures, luxation, osteoarthritis, and osteolytic lesions caused by the tumor or infectious causes (9).
As a result, coccydynia (coccygodynia, coxalgia) or coccygeal pain is a painful condition in the coccyx area that affects the quality of life, and many physiological and psychological factors play a role in its etiology.
Social phobia is a critical behavioral disorder that prevents individuals from being in many social environments, reduces their quality of life, and distracts them from building interpersonal relationships.
This behavior disorder is defined as a clear and persistent fear of being involved in social situations such as meeting strangers, being in front of a crowd, or speaking with the opposite sex.
The relational or social situations mentioned cause intense anxiety in the individual, and the people experience this intense state of anxiety even though they know it is meaningless.
People with a social phobia avoid social environments that cause excessive anxiety for themselves, or if they cannot avoid them, they also endure them with intense anxiety and distress (10).
People with social phobia have expressed excessive emotional reactivity, social fears and inhibitions, dysphoria, loneliness, and general fears.

As can be seen, social phobia is a rather violent behavioral disorder since an individual stays away from social environments and isolates himself from interpersonal relationships. Although social phobia is a disorder with a reasonably high lifetime incidence and the number of accompanying behavioral disorders is also high, the number of etiological studies aimed at identifying the source of this disorder is relatively low (11).

This study aims to examine the effects of social phobia in patients with coccydynia and determine the emotional symptoms and negative consequences of social phobia that occur with the disease. In addition, we aim to determine how often social phobia is seen in the patients included in the study and to examine it according to various variables to determine whether there is a relationship between social phobia and coccygeal pain and to show what kind of a relationship if there is.

2. MATERIAL-METHOD

Patients with coccydynia who applied to our Physical Medicine and Rehabilitation outpatient clinic between September 2021 and May 2022 were included in the study. 80 participants, including 40 cases and 40 control groups, participated in the study. The participants were classified according to their gender, age, educational status, and marital status.

The study was carried out cross-sectional. Ethics committee approval was obtained from the local ethics committee for this research. The participants signed an informed consent form, and a copy was given to them. Then the participants were examined. Experienced physicians examined to confirm coccydynia (coccyx pain). The participants were evaluated by medical history, physical examination, and radiological imaging. Demographic characteristics of the participants, such as age, gender, marital status, education level, height, weight, and BMI, were noted.

The research included people who are 18 years of age and above. Those who had coccyx pain for at least three months and those who had pain triggered by sitting on the coccyx, standing up from a sitting position, defecation, and coitus met the criteria for admission to the study.

Patients with lumbar disc herniation and radiculopathy, sacroiliitis, vertebral compression fracture, piriformis syndrome, spinal stenosis, infectious or non-infectious arthritis, obsessive-compulsive disorder, and somatization disorder were not included in the study.

In the case group, criteria such as the duration of the disease and the use of NSAIDs were neglected. 40 patients aged 25-50 years completed the study. 40 healthy individuals with similar demographic characteristics and who applied on the same dates were taken as the control group.

2.1 Diagnosis of coccydynia

Evaluation of coccydynia begins with a physical examination first. Due to anatomical proximity, an examination is necessary to exclude lumbar, sacroiliac, and urogenital pathologies. The increase in pain during rectal examination by palpation of the anterior face of the coccyx is significant in determining the pain caused by the coccyx (12).

On the other hand, along with physical examinations, radiographic examinations also have an important place. Flexion and extension of the coccyx are examined by radiographs. Dynamic lateral coccyx graphs are taken while standing and sitting. Flexion-extension of 5-25 degrees in the coccyx is considered normal. Below 5 degrees is accepted as Hypomobility, over 25 degrees is evaluated in favor of hypermobility, and more than 25% of the coccyx movement when passing from standing to sitting is considered as luxation (13).

The Postacchini-Massobrio classification stands out as a method for radiologically grouping patients. The angle between the coccygeal part distal on the painful area and the proximal of the sacrococcygeal region is measured. If there is no angulation, it is considered type 1; if there are less than 90 degrees of angulation, it is considered type 2; if there are 90 degrees of angulation, it is considered type 3; and if more than 90 degrees, it is considered type 4 coccydynia (14).

Our patients were also evaluated according to the visual pain scale (VAS) score.

2.2 Diagnosis of Social Phobia

Our study used the Liebowitz Social Anxiety Scale to evaluate social phobia. In a study conducted by Soykan et al., the Liebowitz scale was translated to Turkish and used in our study as such. The scale is divided into two subgroups, the first is used to measure the level of anxiety experienced in the social environment, and the second is used to measure the severity of avoidance behavior (15).

In the light of these criteria, social phobia is scored between 1 and 5.

2.3 Statistical Analysis

Calculations were made by SPSS 18 (SPSS, Chicago, Ill., USA). Kolmogorov-Smirnov test was used to evaluate whether the data were in accordance with the normal distribution. In the

intergroup comparisons, the compatibility of the data with the normal distribution was examined with the Mann-Whitney-U test. Chi-square analysis was conducted to examine whether there was a significant relationship in the distribution of social phobia between the case group and the control group.

3. FINDINGS

80 people, including 40 cases and 40 control groups, participated in the study. The descriptive statistics of the participants are shown below (Table 1).

Table 1: Sociodemographic Characteristics of the Participants

*Gender * Group*

		Group		Total
		Case	Control	
Gender	Female	21	23	44
		52,5%	57,5%	55,0%
	Male	19	17	36
		47,5%	42,5%	45,0%
Total		40	40	80
		100,0%	100,0%	100,0%

*Bachelor's Degree * Group*

		Group		Total
		Case	Control	
Bachelor's Degree	No	22	22	44
		55,0%	55,0%	55,0%
	Yes	18	18	36
		45,0%	45,0%	45,0%
Total		40	40	80
		100,0%	100,0%	100,0%

*Marital Status * Group*

		Group		Total
		Case	Control	
Marital Status	Single	16	15	31
		40,0%	37,5%	38,8%
	Married	24	25	49
		60,0%	62,5%	61,3%
Total		40	40	80
		100,0%	100,0%	100,0%

*Age * Group*

		Group		Total
		Case	Control	
Age	25-33	19	17	36
		47,5%	42,5%	45,0%
	34-42	7	12	19
		17,5%	30,0%	23,8%
	43-50	14	11	25
		35,0%	27,5%	31,3%
Total		40	40	80
		100,0%	100,0%	100,0%

The analyses regarding the participants' social phobia and VAS scores are shared below (Table 2).

Table 2: Analysis of Social Phobia and VAS Scores

	N	Minimum	Maximum	Average	Standard Deviation
Social Phobia	80	1	5	1,75	1,108
VAS	80	0	8	4,44	2,128

	Number	Percent
Normal	48	60,0
Moderate social phobia	14	17,5
Significant social phobia	11	13,8
Severe social phobia	4	5,0
Very severe social phobia	3	3,8
Total	80	100,0

The mean Social Phobia score was 1.75, and the standard deviation was 1.1; the mean VAS score was 4.44, and the standard deviation was 2.12. The social phobia scores of the participants are distributed in the range of 60% normal, 17% moderate, 13% significant, 5% severe, and 3% very severe.

Two different statistical methods were used to compare the rates of social phobia between the case group and the control group. The results are as follows:

No significant difference was found in both. The results are shared in Tables 3.1 and 3.2.

Table 3.1: Mann-Whitney U Test Conducted to Examine Social Phobia Scores Between the Case and Control Group

Group		N	Average Of Ranks	Sum Of Rows	Mann-Whitney U	Z	*P*
Social Phobia	Case	40	43,78	1751,00	669,000	-1,431	0,152
	Control	40	37,23	1489,00			
	Total	80					

Table 3.2: Chi-Square Analysis Conducted to Examine Whether There is a Significant Relationship between the Case and the Control Group in the Distribution of Social Phobia Result

		Group		
		Case	Control	Total
Social Phobia	Normal	22	26	48
		55,0%	65,0%	60,0%
	Moderate social phobia	6	8	14
		15,0%	20,0%	17,5%
	Significant social phobia	5	6	11
		12,5%	15,0%	13,8%
	Severe social phobia	4	0	4
		10,0%	0,0%	5,0%
	Very severe social phobia	3	0	3
		7,5%	0,0%	3,8%
Total		40	40	80
		100,0%	100,0%	100,0%
		Value	df	*p*
Pearson Chi-Squared		7,710[a]	4	0,103

Pearson correlation analysis was performed to examine whether there is a significant relationship between social phobia score and VAS score in the sample group. The results of the analysis are shown in Table 4.

Table 4: Pearson Correlation Analysis of Social Phobia and VAS Scores

		Social Phobia	VAS
Social Phobia	Pearson Correlation	1	,101
	P		,04
	N	80	80
VAS	Pearson Correlation	,101	1
	P	,04	
	N	80	80

In order to examine whether there is a significant relationship between social phobia score and VAS score, a weak correlation relationship was found between the variables as a result of Pearson correlation analysis (r=,101, *p*<,05).

As a result of the Kolmogorov-Smirnov test conducted to determine the test to be conducted to examine whether there is a significant difference between the social phobia score and the VAS score in gender groups, it was found that the data were not distributed normally (*p*<,05). The results of the analysis are presented in Table 5.

Table 5: Mann-Whitney U Test, which was Conducted to Examine the Gender-Related Changes of the Research Variables

Gender		N	Average Of Ranks	Sum Of Rows	Mann-Whitney U	Z	*P*
VAS	Female	44	41,65	1832,50	741,500	-0,495	0,621
	Male	36	39,10	1407,50			
	Total	80					
Social Phobia	Female	44	42,27	1860,00	714,000	-0,856	0,392
	Male	36	38,33	1380,00			
	Total	80					

As a result of the Mann-Whitney U test, the VAS score (U=741.500, *p*>,05) and social phobia score (U=714,000, *p*>,05), and no significant difference was found between the sexes.

4- DISCUSSION

The true incidence of coccydynia is unknown, but it is observed five times more often in women than men.

Although a weak correlation was found in our study, it was suggested that coccidia is more common in women due to the difference in male and female anatomies. In women, the wider and splayed pelvis and the anteroposterior diameter of the pelvic outlet probably increase the load on the coccyx during sitting (16,17).

Pain in the coccyx region can be triggered by sitting and standing up from a sitting position, defecation, and sexual intercourse. According to the literature, it is above 1% among spinal pain disorders. As a result of the Kolmogorov-Smirnov test, which was performed to examine the level of anxiety that may occur in patients with coccydynia symptoms, the severity of avoidance behavior, and whether there was a significant difference between the social phobia scores of the case group and the control groups, it was observed that the data were not normally distributed. In addition, it was found that there was no significant difference between the social phobia scores of the case group and the control group.(u=669,000, *p* >,05) (18).

Again, in our study, a weak correlation was found between the variables as a result of the Pearson correlation analysis performed to examine whether there was a significant relationship between the social phobia score and the VAS score of the patients with coccydynia (r=.101, p<.05).

While a weak correlation was found in our study, Bianchi et al. (2014) found that high-grade social phobia and pain were associated with female gender, sedentary lifestyle, decreased function, and low quality of life in their study (19). Brophy et al. (2013) concluded that the social phobia experienced is related to pain rather than symptoms such as physical activity, motivation, sleep quality, and anxiety (20).

When looking at the literature in this direction, it was also seen that various studies examine the relationship between pain and physical activity level. It has been revealed that the most crucial obstacle to exercise in most patients is pain. In a study conducted by Fongen et al. (2014), pain, fatigue, and lack of social support were found to be the most suggested causes of physical inactivity in people with a disease related to physical activity. Within the scope of this study, a high relationship between social phobia and VAS scores was not found. (21).

Omdal et al. (2022) found that fatigue is associated with disease activity related to cytokine and autoantibody levels, while no such association has been shown in others (22). On the other hand, Tench et al. (2000) found that ethnicity, marital status, smoking, constitutional findings, neurological involvement, cardiovascular involvement, headache, and antidepressant drug use were associated with high fatigue levels (23).

Wilcox et al., while investigating the cause of physical inactivity in patients with arthritis, divided the patients into case and control groups in two ways exercising and non-exercise, and found that the primary complaints of individuals in both groups were a pain. According to the study in question, the pain was classified into three

categories: pain that prevents exercise, occurs during exercise, and occurs after exercise (24).
Another study that differs from the findings of our study was developed by Naegeli et al. and found that pain in patients with SLE is associated with reduced physical function (25).
Somers and others also noted that in their study, patients with a low level of pain control and/or a high level of catastrophic pain had more physical and social phobia symptoms (26).
In the study by Somers, T. J. Kurakula, P. C. (2012), a significant relationship was found between physical activity level and affective descriptions, which is a sub-parameter of pain, in the results obtained in parallel with the findings of our study. However, no correlation was found between social phobia, which is the other sub-parameters of pain, and physical activity level (26).

Limitations of our study:

In our study, when dividing patients into treatment groups, we did not group them according to the findings of the graph, type of coccyx, or the severity of the disease. However, according to the coccyx type and the disease severity, patients could be divided into subgroups and evaluated. This is a limitation of our work. Future studies should focus on the selection of the optimal patient profile.
Another limitation of our study is the difficulty of not grouping patients using pharmacological treatment methods such as analgesic agents, nonsteroidal anti-inflammatory drugs, anticonvulsants, antidepressants, and opioids, and the difficulty in evaluating whether the placebo effect contributes when evaluating their effectiveness.

5- RESULTS

As a result, it was found that the social phobia score did not change in the case and control groups. It was observed that the VAS score was higher in the case group than in the control group. There is a weak correlation between the VAS score and the social phobia score. Social phobia and VAS scores do not vary depending on gender, age, bachelor's degree, and marital status. However, we think this situation may change with the studies conducted on patients with more severe pain. For this reason, we believe new studies are needed in patients with different pain levels and disease severity.
Apart from the symptoms associated with the disease, demographic and biological characteristics of patients such as age, gender, educational status, socio-economic status, marital status, obesity, heart diseases, and patient expectations; psychological, mental, and emotional states such as mental state, stress, motivation, belief; environmental factors such as transportation, suitable space, household equipment, seasonal-weather changes, activity area, and social and cultural factors may also be the cause of the social phobia.

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Conflict of Interest

There are no conflicts of interest in our research.

6- REFERENCES

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