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ARAŞTIRMA YAZISI / RESEARCH ARTICLE

PANKREATİTLİ ÇOCUKLARDA YAŞAM KALİTESİ VE SOSYAL ANKSİYETE DÜZEYLERİ

THE QUALITY OF LIFE AND SOCIAL ANXIETY LEVELS OF CHILDREN WITH PANCREATITIS

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ÖZ

AMAÇ: Pankreatit çocuklarda yaşam kalitesini ve anksiyete düzeyini etkileyen hastalıklardan biridir. Uzun süren ağrılı ataklar özellikle çocukların günlük aktivitelerini oldukça olumsuz etkilemektedir. Güncel literatürde akut pankreatit ve akut tekrarlayan pankreatitli hastalarda yaşam kalitesi veya anksiyete düzeylerinin ölçüldüğü çalışmalar oldukça kısıtlıdır. Çalışmamızda akut pankreatit ve akut tekrarlayan pankreatit tanılı hastalarda yaşam kalitesi ve anksiyete düzeylerinin sağlıklı kontrol grubundaki çocuklarla karşılaştırılması amaçlandı.

GEREÇ VE YÖNTEM: Bu çalışmaya, 8-18 yaş arası, pankreatit tanılı 40 hasta ve 40 sağlıklı gönüllü çocuk alındı. Çalışma grubunun yaş, cinsiyet, Çocuklar İçin Yaşam Kalitesi Ölçeği ve Sosyal Anksiyete Ölçeği skorları kaydedildi.

BULGULAR: Akut pankreatit grubu, akut tekrarlayan pankreatit grubu ve kontrol grubu yaş ve cinsiyet açısından benzer bulundu (p>0.05). Sosyal Anksiyete Ölçeğinden aldıkları puanlar karşılaştırıldığında kontrol grubunun toplam puan ortancalarının akut pankreatit ve akut tekrarlayan pankreatit grubundan daha düşük olduğu bulundu (p<0.001). Çocuklarda Yaşam Kalitesi Ölçeğinden aldıkları puanlar karşılaştırıldığında kontrol grubunun fiziksel sağlık (p<0.001), psikososyal sağlık (p<0.001) ve toplam puan ortancalarının (p<0.001) akut pankreatit ve akut tekrarlayan pankreatit grubundan daha yüksek olduğu bulundu. Akut pankreatit ve akut tekrarlayan pankreatitli çocuklar karşılaştırıldığında Çocuklar İçin Yaşam Kalitesi Ölçeği fiziksel sağlık skorunun akut tekrarlayan pankreatitli çocuklarda daha düşük olduğu saptandı (p<0.036). İki hasta grubu arasında diğer skorlar açısından anlamlı bir fark bulunmadı (p>0.05).

SONUÇ: Bu çalışma ile Pankreatit tanılı çocukların sağlıklı çocuklara kıyasla yaşam kalitelerinin daha düşük, sosyal anksiyetelerinin daha yüksek olduğu saptandı. Bu farklılık hastalığın bir sonucu olabileceği gibi çocuklarda akut pankreaitit gelişimini tetikleyen etiyolojik bir faktör olabilir. Neden sonuç ilişkisini ortaya koymak için prospektif çalışmalara ihtiyaç vardır. Klinisyenlerin bu konuda farkındalığının arttırılması ve daha geniş çalışma gruplarında daha ileri çalışmalar yapılması gerekmektedir.

ANAHTAR KELİMELER: Pankreatit, yaşam kalitesi, sosyal anksiyete, çocuk

ABSTRACT

OBJECTIVE: Pancreatitis is one of the disease that affects the quality of life and level of anxiety in children. Long periods of painful attacks affect daily activities of children unfavourably. In current literature, studies about the life quality or anxiety levels of children with pancreatitis are very limited. The aim of our study was to compare pancreatitis cases with a healthy control group in terms of life quality and anxiety levels.

MATERIAL AND METHODS: Forty patients with pancreatitis and 40 healthy volunteer children aged 8-18 years were included in this study. Age, gender, quality of life scale and social anxiety scores of the study group were recorded.

RESULTS: Pancreatitis and control groups were similar in terms of age and sex (p> 0.05). Comparing the scores of social anxiety scale, total scale score of control group was significantly lower than the other patients group (p <0.001). When the scores obtained from the quality of life scale were compared, physical health (p <0.001), psychosocial health (p <0.001) and total scale score (p <0.001) of control group were higher than children with pancreatitis. When the children with acute pancreatitis compared with acute recurrent pancreatitis, physical health score of Children Quality of Life Scale was found to be lower in children with acute recurrent pancreatitis (p <0.036). There was no significant difference between the two patient groups in terms of other scores (p> 0.05).

CONCLUSIONS: In this study, it was found that children with pancreatitis had lower quality of life and higher social anxiety compared to healthy children. This difference may be a result of the disease or an etiological factor that triggers the development of acute pancreatitis in children. Prospective studies are needed to establish the causal relationship. It is necessary to increase the awareness of clinicians on this issue and to carry out further studies in larger study groups.

KEYWORDS: Pancreatitis, quality of life, social anxiety, child

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INTRODUCTION

Pancreatitis in children has been diagnosed more frequently in the last decade with the increased awareness of healthcare professionals and more detailed evaluations of pancreatitis etiologies (1). According to the International Study Group of Pediatric Pancreatitis (INSPPIRE), childhood pancreatitis is classified into three groups as acute pancreatitis (AP), acute recurrent pancreatitis (ARP) and chronic pancreatitis (CP). Acute pancreatitis is defined as a reversible inflammatory process in which the pancreas is self-limiting or may cause multisystem organ dysfunction. ARP is a recurrent acute pancreatic episode with normal periods lasting 1 month and more than 1 month. Chronic pancreatitis is characterized by irreversible damages such as fibrosis and necrosis in the pancreatic tissue, leading to endocrine or exocrine insufficiencies of pancreas (2, 3).

The incidence of acute pancreatitis ranges from 3.6 to 13.2 per 100.000 people. Acute pancreatitis is observed in all age groups. In a meta-analysis, average age of AP was 9 years old and male / female ratio was ½ (4). Diagnosis of childhood AP is given according to the criteria of International Study Group of Pediatric Pancreatitis (INSPPIRE) and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN). According to these criteria, two of the following three criteria are required for AP diagnosis: 1-characteristic abdominal pain (epigastric or right upper quadrant); 2-serum amylase and / or lipase values rise to 3 or more of the upper limit of normal; and 3- AP compatible imaging findings (findings consistent with AP in ultrasound, magnetic resonance imaging or computed tomography) (5).

Children with AP and ARP are more prone to physical, psychological, and social problems in comparison with healthy children. In addition, diminished daily activities and oral feeding during the disease may worsen the emotional status and disrupt the quality of life (6). In this study, we aimed to determine the quality of life and social anxiety levels of children with pancreatitis.

MATERIALS AND METHODS

Our study was designed as a descriptive study. The study was conducted in Children's Health and Diseases Policlinics of Afyonkarahisar Health Sciences University Hospital in Afyonkarahisar. Fourthy patients who were diagnosed as AP and ARP in between 2014-2018 years and 40 healthy volunteers in the same age with similar male and female ratio were included in the study. The demographic characteristics of the participants and clinical characteristics of the patients were obtained with a structured survey. Quality of life and social anxiety scales were performed to participiants. No special training was required to fill these scales. It was sufficient for children and / or their families to have a mental level for understanding the questions. Children with mental retardation were not included in our study. The study protocol was approved by the local ethics committee.

Social Anxiety Scale for Children-Revised Form (SASC-R)

That scale was developed in 1988 by La Greca et al. (7), which consisted of 10 questions, was revised in 1993 with a total of 18 questions (8). The last version of that scale has been used that consists of a Likert type scoring scale, and each question is marked as '0= never, 1=rarely, 2=sometimes, 3=often, or 4=always'. Scores of the scale are between 18 and 90 points. The SASC-R scores increase as the social anxiety increases The scale, SASC-R mainly questions the cognitive aspect of social anxiety and the scale has three components: fear of negative evaluation, discomfort in new environments and social discomfort / avoidance. In the year 2000, Demir et al. studied the validity and reliability of SASC-R for Turkish children (9).

Quality of Life Scale for Children

This scale is used to evaluate the quality of life of children and adolescents who are between 2 and 18 years old (10). The scale consists of 4 subgroups; physical functionality, emotional functionality, social functionality, and school functionality with a total of 23 questions. It is a composed of Likert type scoring scale with "0 = never, 1 = rarely, 2 = sometimes, 3 = frequently or 4 = almost always". The items are scored

between 0-100. If the answer to the question is never, it is marked as 0 = 100; 1 = 75 for rarely; 2 = 50 for sometimes, 3 = 25 for frequently and 4 = 0 for always. The total scale score increases as the quality of life gets higher. The reliability and validity of the test for Turkish children were studied by Memik et al (11). They proposed a quality of life scale for Turkish children. In our study, quality of life scale for children (8-12 years old) and quality of life scale for adolescents (12-18 years old) forms were used.

STATISTICAL ANALYSIS

Data were analysed by using SPSS 22.0 and evaluated with descriptive statistics as arithmetic mean, standard deviation and percentage distributions. Chi-square and Fisher's exact test were used to compare the percentage distribution of categorical data among the groups. For comparing the means of the groups, the compliance of data with normal distribution was evaluated by Shapiro Wilk test. T test was used to compare when means' distributions were normal. Otherwise, Mann Whitney U test and Kruskal Wallis test were used to compare. P<0.05 was considered as statistically significant.

RESULTS

This study consisted of 20 patients with AP, 20 patients with ARP and 40 healthy volunteer children. There were no statistically significant differences between parents' ages, education levels, income levels and family types in both groups (p>0.05). The mean age of patients with AP; ARP and healthy children were 12.25±3.57, 12.80±3.44 and 12.97±2.92 (mean±SD) respectively. No statistically significant difference was found between groups in terms of age (p = 0.692). A total of 11 children diagnosed with AP were female and 9 were male; 11 patients with ARP were female and 9 were male; and 24 healthy volunteers were female and 16 were male. There was no statistically significant difference between groups in terms of gender (p = 0.903). SASC-R scores of patient and healthy control groups were 60.93 ± 12.07 and 41.80 ± 15.34 (mean±SD), respectively. The patient group had significantly higher SASC-R score than control group (p <0.001) **(Table 1)**. SASC-R scores of AP and ARP groups were 60.55 ± 13.37 and 61.30 ± 10.96,(mean ±SD) respectively. No statistically significant difference was found between these two groups (p = 0.607) **(Table 2)**.

Table 1: Total score distributions of the quality of life scale for AP and ARP groups.

	Patient (n=40)		Control (n=40)		
	Mean ± SD	Median (Min-Max)	Mean ± SD	Median (Min-Max)	p Value*
SASC-R scores	60.93±12.07	63.5 (36-90)	41.80±15.34	40(18-75)	*<0.001*

Mann Whitney U test is used in the comparison of the groups.
*p < 0.05 was considered as statistically significant.

Table 2: Total score distributions of the quality of life scale for patient and control groups.

	Acute Pancreatitis (n=20)		Acute Recurrent Pancreatitis (n=20)		
	Mean ± SD	Median (Min-Max)	Mean ± SD	Median (Min-Max)	p Value*
SASC-R scores	60.55±13.37	61.5 (41-90)	61.30±10.96	64(36-76)	0.607

Mann Whitney U test is used in the comparison of the groups.
*p < 0.05 was considered as statistically significant.

When the quality of life scale scores were compared between patient and control groups, total and subscores were found significantly lower in the patient group (p<0.001). In patients group; total physical health score was 37.03±19.66, total psychosocial health score was 42.21±16.86 and total scale score was 40.41±16.84. In control groups, total physical health score was 63.28±19.25, total psychosocial health score was 65.92±17.59, and total scale score was 65.00±16.85 40.41±16.84 **(Table 3)**.

Table 3: Total quality of life scale scores distributions of patients and control group

	Patient (n=40)		Control (n=40)		
	Mean ± SD	Median (Min-Max)	Mean± SD	Median (Min-Max)	p Value*
Total Physical Health Score	37.03±19.66	31.25(6.25-100)	63.28±19.25	60.94(28.13-100)	*<0.001*
Total Psychosocial Health Score	42.21±16.86	39.17(16.67-88.33)	65.92±17.59	66.67(30-95)	*<0.001*
Total Scale Score	40.41±16.84	35.87(15.22-92.39)	65.00±16.85	65.22(31.52-95.65)	*<0.001*

Mann Whitney U test is used in the comparison of the groups.
*p < 0.05 was considered as statistically significant.

In patients with AP, total physical health score was 43.13±20.99, total psychosocial health score was 45.25±19.09, and total scale score was 44.51±18.64. In patients with ARP, total physical health score was 30.94±16.56, total psychosocial health score was 39.17±14.12, and total scale score was 36.30±14.13. Comparing the scores of quality of life scale for AP and ARP groups, total physical health score was significantly lower in ARP group (p = 0.036). Shows the distributions of the quality of life scale total and subscores of patients with AP and ARP **(Table 4)**.

Table 4: Total quality of life scale scores distributions of patients with AP and ARP

	Acute Pancreatitis (n=20)		Acute Recurrent Pancreatitis (n=20)		
	Mean ± SD	Median (Min-Max)	Mean ± SD	Median (Min-Max)	p Value*
Total Physical Health score	43.13±20.99	37.50(15.63-100)	30.94±16.56	25(6.25-75)	*0.036*
Total Psychosocial Health Score	45.25±19.09	43.33(16.67-88.33)	39.17±14.12	37.50(16.67-71.67)	0.432
Total Scale Score	44.51±18.64	37.50(26.09-92.39)	36.30±14.13	34.24(15.22-72.83)	0.233

Mann Whitney U test is used in the comparison of the groups.
*p < 0.05 was considered as statistically significant.

DISCUSSION

In current literature, there are several studies about the contribution of treatment processes of chronic pancreatitis the quality of life in childhood, but there is no study on the quality of life or psychological status of AP and ARP cases. In this study, the anxiety scores of patients with AP and ARP were higher and their quality of life scores were lower than control group.

Pancreatitis, defined as inflammation in pancreas, may cause some minimal long-term side effects, after complete recovery. Approximately one fourth of these patients may have chronic abdominal pain, pancreatic necrosis, or multiple organ failure. ARP cases are important because of the risk of progressing to chronic pancreatitis with chronic inflammation and fibrosis in endocrine and exocrine glands (12).

There are several studies about the quality of life for adult pancreatitis patients. Wright et al. (13) evaluated 31 patients with acute necrotizing pancreatitis in terms of quality of life and functional status. Fitzsimmons et al. (14) reported that 66 patients with chronic pancreatitis had increased anxiety levels, frequent sleep disturbances and fatigue symptoms.

In similar studies the quality of life of patients with chronic pancreatitis, quality of life was reported to be lower than healthy control groups (15-17). In this study, quality of life scores of children with AP and ARP were lower compared to control group. The reasons of lower life quality of the patients can be long painful episodes, effect of other symptoms, feeling of hunger due to the lack of oral intake according to the severity of the disease, and insomnia. We found significant difference between AP and ARP groups in terms of Physical Health subscore of life quality scale. Lower physical health subscale scores in children with ARP may be associated with increased physical stresses by repeated episodes.

In a study performed by Pohl et al. (18), life qualities of patients with ARP and CP were evaluated with a reliable child-specific questionnaire. Fatigue symptoms were determined more frequently in patients with ARP and CP. The questionnaire was applied to both children and parents. The authors reported a significant relationship between fatigue and quality of life. Life qualities of children with ARP or CP were lower compared to study and control groups. In addition to the significant differences in total quality of life scores, subfield scores of emotional, physical and psychosocial status were lower for patients with long-term pancreatitis. Quality of life scores reported by parents and children matched well (18). In this study, quality of life scores as well as psychosocial and physical health scores were lower for patients with AP and ARP. By comparing the findings of our study with the findings of similar studies, pancreatitis in childhood affect physical health as well as it may cause psychosocial problems. However, as mentioned above, studies that focus on psychosocial aspects of children with AP and ARP are very limited. Psychosocial influences of children related to these diseases should be examined with further studies in larger patient groups.

School performance, which is a sub score of life quality, is expected to be affected with severe pain. Studies that were conducted among adults show that pain symptom severely affects quality of life (19, 20). Pohl et al. (18) showed that children's school function subscale scores were lower due to pain symptoms. Chinnakotla et al. (21) reported that there were significant increases of school absenteeism in 75 children who were diagnosed with chronic pancreatitis. Although we did not measure pain or other symptoms in this study, school functionality scores were lower in patient group compared to control group. In the studies conducted among adults by considering economic aspects, it was determined that diseases caused loss of many working days. Although it is not considered as a loss of working days in childhood, the increase in school absenteeism and the decrease in school performance affect negatively the edu-

cational life of these children. Limitation of the studies prevents the fully identification of negative results of this disease.

Duration of diseases is one of the factors that negatively affect quality of life (15-17). In this study, we could not detect a difference in terms of quality of life or anxiety scores between AP and ARP groups. The total score of physical health subscales, quality of life scores were lower in ARP group. On the one hand, implementation of these questionnaires during symptomatic periods of AP cases or during the severe effects of the disease might have revealed this result. On the other hand, there is no significant difference between two groups. In the current literature, effects of chronic pancreatitis on the quality of life are generally examined and it is expected that quality of life will be affected more with longer disease durations. Studies comparing AP or ARP cases with chronic pancreatitis in terms of life quality may be useful for the better understanding of the effect of disease duration.

Although the studies on life quality of children with AP are very limited, the effects of treatment options on clinical outcomes have been investigated in some studies. In a study examining 75 children with pancreatitis, in addition to clinical outcomes of children after total pancreatectomy, there was a significant increase in quality of life scores. The improvement in the average subgroup scores of life quality was significant. It has been reported that children's physical sub-score quality of life has also improved (21). The change in life quality of patients who were followed up long-term after pancreatectomy has also been investigated by other studies. Pancreatectomy provides improvements in quality of life due to the fact that symptoms such as ARP disappeared completely after pancreatectomy (22). Similarly, the same treatment modality provided significant improvements in quality of life scores for patients with ARP (23).

Children who were diagnosed as chronic pancreatitis with an average age of 14.5 years were evaluated in terms of quality of life from total pancreatectomy with autotransplantation. After the treatment, significant improvements in life quality of the children have been reported. Quality of life scores before the treatment were significantly lower than the average quality of life scores of children in the community. Lower scores have been reported for the all eight sub-scores of life quality scale. However, reliability of the results obtained from the study is not sufficient due to the limitations such as applying the same questionnaire of adults to the relatively low sample size of children (24). Significant increase in quality of life scores after treatment showed that treatment should be done at appropriate time. In the evaluation of treatment results, some clinical parameters or symptoms are mostly considered in practice. However, it is also important to evaluate health-related quality of life and clinical parameters especially in pediatric age groups.

During the diseases that involve long-term or severe symptoms, children may have negative effects on their psychological conditions. Although some researchers have emphasized psychological changes in children during some diseases, the psychological status of AP cases has not been adequately examined. In this study, we evaluated anxiety levels of the children with the social anxiety scale. We have not observed significant differences between AP or ARP cases, but they had higher level of anxiety than healthy group. Gupta et al. (25) evaluated the depression and anxiety levels in the third and seventh days after diagnosis in the study of 32 adult patients with pancreatitis. There were no changes in depression and anxiety scores during one-week period.

One of the features, which make this study significant, is that it is the first study to evaluate the quality of life and social anxiety levels of AP and ARP cases with specific, valid and reliable methods. Quality of life and social anxiety scales that were not confirmed by parents, parameters that could affect psychosocial levels, children's symptoms, and clinical parameters were not taken into consideration. Those conditions are the limitations of this study.

CONCLUSION

Children with pancreatitis had lower quality of life and higher social anxiety scores. It is necessary to increase the awareness of clinicians on

this issue and to carry out further studies in larger study groups.

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