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The Effects of Psychological Focus Group Therapy on the Quality of Life of Female Patients with Acromegaly

Kadın Akromegali Hastalarında Psikolojik Focus Grup Terapisinin Hayat Kalitesi Üzerine Etkileri

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Abstract

Objective: Chronic diseases such as acromegaly affect psychological health. This study aimed to evaluate the effects of a 1-year-long psychological focus group therapy on the quality of life of patients with acromegaly. **Material and Methods:** Seven female patients with acromegaly, followed-up at the endocrinology outpatient clinic of Cerrahpasa Medical Faculty, were evaluated. The weekly group psychotherapy sessions were conducted by a psychoanalyst and a clinical psychologist between May 2018 and May 2019. Beck Depression Inventory (BDI) and Acromegaly Quality of Life (AcroQoL) scales were assessed at baseline, 3-months, 6-months, and 1-year of group therapy. **Results:** The mean age of the patients was 43.7 ±6.2years, and the median duration of disease was 8 [3-10] years. Six patients were in disease remission. There was a significant improvement in the BDI (p=0.008) and AcroQoL-total scores (p=0.04) from the beginning till the end of the study. A strong negative correlation was observed between BDI and AcroQoL-2 (p=0.003; r=-0.91 vs. p=0.04; r=-0.77) and AcroQoL-total (p=0.03; r=-0.78 vs. p=0.01; r=-0.85) scores at baseline and the 3-months of therapy, respectively. Moreover, the psychoanalyst reported that the patients showed an improved ability to face difficulties caused by their illnesses, expressed their emotional reactions more freely, and were more capable of enduring the disease. **Conclusion:** Patients with acromegaly benefited from the 1-year psychological focus group therapy in terms of psychological well-being, along with improved AcroQoL and BDI scores. Psychotherapeutic approaches, starting with the diagnosis of the disease, might be a significant intervention that improves the quality of life of patients with acromegaly.

Keywords: Acromegaly; follow up studies; psychotherapy; quality of life

Özet

Amaç: Akromegali gibi kronik hastalıklar psikolojik sağlığı etkiler. Bu çalışmanın amacı, akromegali hastalarında 1 yıllık psikolojik focus grup terapisinin hastaların hayat kalitesi üzerine etkisini araştırmaktı. **Gereç ve Yöntemler:** Cerrahpaşa Tıp Fakültesi endokrinoloji kliniğinde takip edilmekte olan 7 kadın akromegali hastası çalışmaya katıldı. Haftalık grup psikoterapi seansları, Mayıs 2018 ile Mayıs 2019 arasında bir psikanalist ve bir klinik psikolog tarafından gerçekleştirildi. Beck Depresyon Envanteri (BDE) ve Akromegali Hayat Kalitesi Ölçeği (AcroQoL) terapinin başlangıcında, 3. ve 6. aylarda ve 1. yılda değerlendirildi. **Bulgular:** Hastaların ortalama yaşı 43,7±6,2 yıl, ve ortanca hastalık süresi 8 [3-10] yıldı. Altı hasta remisyondaydı. Çalışmanın başlangıcından sonuna doğru BDE (p=0,008) ve Acro-QoL-total (p=0,04) skorlarında anlamlı düzelme saptandı. Başlangıç ve 3. ay BDE ile AcroQoL-2 (p=0,003; r=-0,91 vs. p=0,04; r=-0,77) ve BDE ile AcroQoL-total (p=0,03; r=-0,78 vs. p=0,01; r=-0,85) skorları arasında kuvvetli negatif korelasyon saptandı. Ayrıca, psikanalist, hastaların hastalıklarının neden olduğu zorluklarla yüzleşmede belirgin bir ilerleme gösterdiklerini, duygusal tepkilerini daha özgürce ifade ettiklerini ve hastalıkla daha rahat baş edebildiklerini bildirdi. **Sonuç:** Akromegali hastalarında 1 yıllık psikolojik focus grup terapisi psikolojik iyilik hâlleri açısından fayda sağlamış olup bu fayda BDE ve Acro-QoL skorlarında iyileşmeye de yol açmıştır. Tanı anından itibaren yapılacak psikoterapötik yaklaşımlar akromegali hastalarının yaşam kalitesini arttıracak önemli bir girişim olabilir.

Anahtar kelimeler: Akromegali; takip çalışmaları; psikoterapi; hayat kalitesi

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Introduction

Acromegaly is a rare disease that is characterized by the excessive secretion of growth hormone (GH) from benign pituitary adenomas. Besides the mechanical effects of the adenoma, such as headache and/or visual disturbances, or the metabolic effects of the hypersecretion of insulin-like growth factor-1 (IGF-1) such as glucose intolerance and hypertension, patients with acromegaly are faced with some physical changes such as the overgrowth of facial and acral bones and soft tissues (1,2). The slow and subtle progression of the disease makes this suffering more pronounced (3).

Chronic diseases affect psychological health. Besides the physical complaints, frequent follow-ups, and treatment processes, patients with acromegaly need to make permanent changes in both their and their relatives' lifestyles.

Health assistance is often preferentially provided for physical ailments, whereas psychological help is often neglected in the management of chronic diseases (4,5). Psychological help is more important in acromegaly because the patients are exposed to disease-related physical malformations apart from the psychological effects caused by the disease. Therefore, besides the ongoing medical treatments for the patients, psychological support, especially when it is given through psychological group therapy with other patients having the same disease, may be very effective in improving their mood and their ability to cope with the disease. Although several studies in the literature have evaluated the factors that affect the quality of life (QoL) of patients with acromegaly (6-8), information that deals with the effect of psychological support through group therapy is scarce (9,10). The previous study with the longest follow-up evaluated the effects of cognitive-behavioral therapy (CBT) in patients with acromegaly and reported results over nine weeks (9). The same authors also re-evaluated the patients who had attended the 9-week group therapy after nine months to determine the long-term effects of the 9-week-long therapy sessions. They showed an improvement in QoL with short-term therapy and that this positive effect was also maintained after nine months (10).

In this study, the effects of a 1-year-long psychological focus group therapy on the QoL and mood of patients with acromegaly were evaluated.

Material and Methods

Subjects and Study Design

Patients with acromegaly, who were followed up at the endocrinology and metabolism outpatient clinic at the Cerrahpasa Medical Faculty, Istanbul University-Cerrahpasa, Istanbul, Turkey, were informed about the study. Patients that had known depression or psychiatric diseases and had taken psychoactive medicine were excluded. Twelve patients that fulfilled the inclusion criteria volunteered for participation in the study. However, after two weeks, only seven female patients continued with group therapy regularly. The weekly group psychotherapy sessions were conducted by a therapist (psychoanalyst) (GO) and a co-therapist (clinical psychologist) (SS) between May 2018 and May 2019. The participants were seated in a circle in a private room to create a comfortable and peaceful environment.

The demographic and disease characteristics of the patients were determined from the medical files and the participants themselves. The patients were considered to be "in remission" if the IGF-1 levels were within the normal range for their age and sex, even under the use of drugs, and the disease was considered to be "active" if the IGF-1 levels were higher than the normal range for the patient's age and sex. The participants were asked to complete the Beck Depression Inventory (BDI), and Acromegaly Quality of Life (AcroQoL) scales at baseline, 3-months, 6-months, and 1-year of the group therapy.

Beck Depression Inventory (BDI)

The BDI is a 21-item, self-reporting scale that measures the symptoms of depression. Each response has a score of 0-3 points. A score of ≥17 implies depression. The Turkish validation of the BDI was conducted by Hisli in 1989 (11).

Acromegaly Quality of Life (AcroQoL) Scale

AcroQoL is a 3-part QoL scale (physical status-AcroQoL-1, psychological/appearance–AcroQoL-2, psychological/social relations–AcroQoL-3) that contains 22

questions. It aims to evaluate the physical and psychological status of patients with acromegaly. Each response has a score of 1–5. The total score is directly proportional to the QoL of the patient. AcroQoL has been validated in five different languages by Webb et al. (12).

Psychotherapy design

Insight-oriented and supportive psychotherapy techniques have been used to provide relief from symptoms, promote behavioral change, and empower patients to adapt to their emotional difficulties that stem from living with a chronic illness (13-16). Group psychotherapy for chronically ill patients provides a support system among members that have common problems and experiences. This enables the patients to express their emotions freely and feel understood and supported by each other. During this process, they observe other members' behavioral changes, positive outcomes, and become capable of imitating their problem-solving strategies, which result in significant behavioral changes in their lifestyle and that of their relatives. They gain insights on the difficulties of having a chronic illness, how the illness and its associated emotions affect their close relationships, family lives, and their sense of self. In time, these insights start changing their ways of relating with themselves and others, which is a manifestation of the healing process. The group process also encourages patients to try new techniques of socialization and talk about different aspects of the illness, and all the related difficulties they seemed to avoid before. Changes in the manner of communicating about the illness within the group promote similar changes in the outer world. The supportive relational system that is built within the group enables the patients to formulate creative solutions for their common problems and promote positive behavioral changes, resulting in relief from symptoms. All subjects gave written informed consent. The study was approved by the local ethics committee of the Istanbul University Cerrahpasa Medical Faculty, and all the procedures performed in studies involving human participants were conducted in compliance with the ethical standards of the institutional and/or national research committee, the Helsinki Declaration of 1964, and its subsequent amendments or comparable ethical standards.

Statistical analysis

The data were statistically analyzed using the program "Statistical Package for the Social Sciences" for Windows version 21.0 (SPSS, Chicago, IL). The normality of distribution was tested using the Shapiro–Wilk test. The age, monthly income, duration of disease, and AcroQoL results were expressed as mean±standard deviation and the BDI scores as median [interquartile range (IQR)]. The Friedman test (posthoc analysis with the Wilcoxon test) was used for comparing the AcroQoL and BDI scores of patients at baseline, 3-month, 6-month, and 1-year of therapy. The degree of correlation between BDI and AcroQoL scores was evaluated using Spearman's test. p-value of <0.05 was considered to be statistically significant.

Results

The demographic and disease characteristics of the patients are presented in Table 1. The mean age of the participants was 43.7±6.2 years, and all were females. The median duration of disease was eight years (range 3–10 years), and six of the seven patients were in disease remission.

Results of the Questionnaires

The trend in scores of the BDI and Acro-QoL of each patient from the beginning to the end of the therapy sessions is presented in Figures 1a and 1b, respectively.

Based on the BDI scores, two patients had depression at the beginning of the therapy sessions, which improved markedly at one year. In the total study group, a significant difference was observed in the BDI scores at the baseline, 3-month, 6-month, and 1-year ($p=0.008$), with the posthoc analysis indicating that the difference between parameters at baseline and 6-month ($p=0.01$), and baseline and 1-year ($p=0.02$) contributed largely to the difference.

The total AcroQoL scores showed a significant increase from the beginning to the end of the study ($p=0.04$), which was largely attributed to the difference between parameters at 3-month and 1-year ($p=0.02$).

Table 1. The demographics and disease characteristics of the study group.

Patient Number	Age	Sex	Educational status	Monthly income (TL)	Duration of disease (years)	Need for medical treatment	RT	Hypopituitarism	Comorbidities	Remission
1	56	F	Elementary school	5500	9	No	No	No	HT	Yes
2	37	F	High school	3500	2	Yes	No	No	T2DM	No
3	43	F	High school	3000	10	Yes	No	No	No	Yes
4	47	F	Elementary school	3000	5	Yes	No	No	No	Yes
5	42	F	High school	10000	8	Yes	No	No	No	Yes
6	40	F	High school	5500	3	Yes	Yes	Yes	No	Yes
7	41	F	High school	6500	18	Yes	Yes	Yes	T2DM	Yes

F: Female; T2DM: Type 2 Diabetes Mellitus; HT: Hypertension; TL: Turkish Lira; RT: Radiotherapy.

However, there were no statistically significant differences between the AcroQoL-1 (p=0.14), AcroQoL-2 (p=0.07), and AcroQoL-3 (p=0.06) scores at baseline, 3-month, 6-months, and 1-year.

When the correlations between BDI and AcroQoL parameters were analyzed, a strong negative correlation was observed between the BDI and AcroQoL-2 (p=0.003, r=−0.91 vs. p=0.04, r=−0.77), and the BDI and AcroQoL-total (p=0.03, r=−0.78 vs. p=0.01, r=−0.85) scores at the baseline and third-month parameters, respectively. However, in the 6th month and the first year, no significant correlation was observed between BDI and any of the AcroQoL parameters.

Psychological results of the group psychotherapy sessions

This was a common observation in all types of psychotherapy models because the majority were women, and the men participating in the group did not continue. Among all the group members, the tendency to nullify the negative changes in disease and lifestyle was very high. An important part of their lives was under the compelling and disrupting effects of the disease, such as regular follow-ups at the hospital and intensive drug treatments. However, patients tended to ignore this negativity. All the group members presented the complications of all invasive procedures, including surgery, as if they were ordinary events. They were not talking about depressive symptoms but focused on the changes in their physical appearance. Almost all patients shared their pre-disease pictures with other group members and therapists in various sessions and continued to be impressed in this regard. During the initial sessions, the denial of negativities other than bodily changes was apparent and surprising. However, in the subsequent sessions, they started mentioning that these co-symptoms gradually deteriorated their functionality (getting tired quickly and spending a significant amount of time in the hospital). Six patients were married. Although the participants claimed during the initial therapy sessions that they were trying to perform both their professional lives and domestic activities without any major impairment, and their husbands and children denied the existence of the disease, in the later sessions, they accepted that they were partially compensated and also tolerated by their relatives.

Although emotional sharing was limited during the initial months of therapy, the patients started to talk about their feelings with the group after six months, with the encouragement of the active group members. Despite socio-cultural and intellectual differences, they tried to maintain this solidarity outside the group. All the group members had a sense of belonging to the

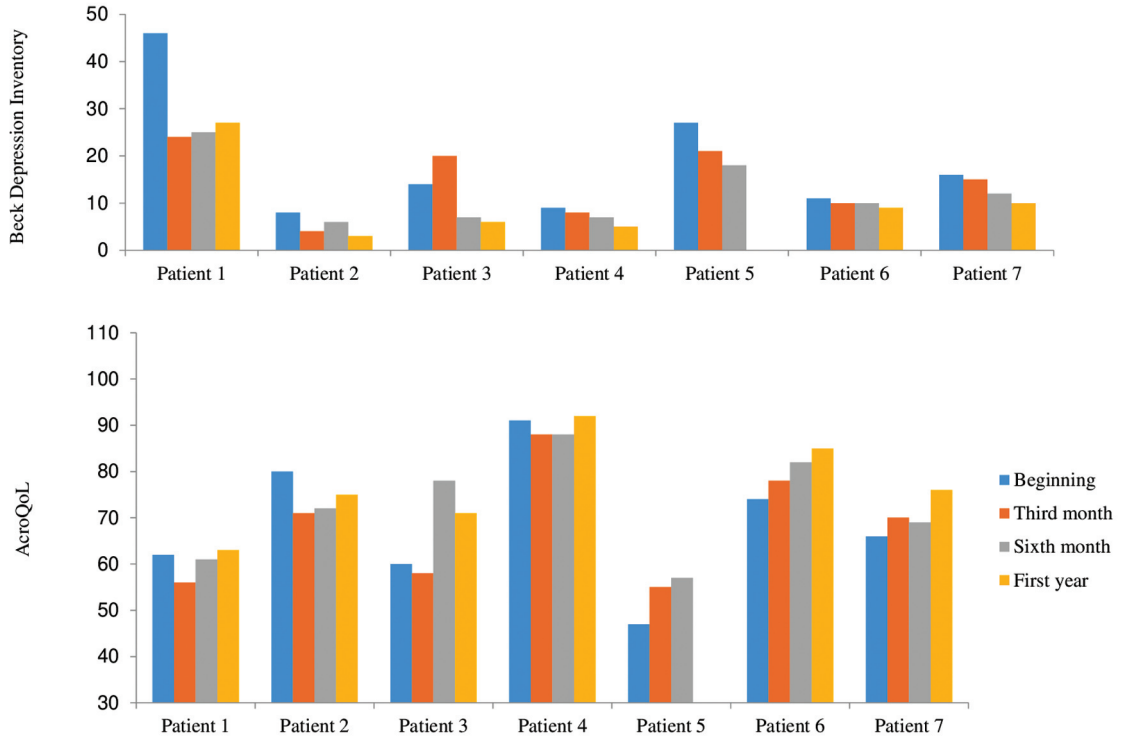

Figure 1. The progression of Beck Depression Inventory (a) and AcroQoL-total scores (b) of the patients from the beginning to the end of the therapy sessions.
Patient 5 did not have parameters at one-year because she appeared for therapy for only eight months.

hospital due to the chronicity of the disease and frequent parenteral drug applications because of the long treatment period. Although the group therapy was planned to last one year, they all were reluctant to terminate the therapy. The final two sessions were about farewell, and there was a relative increase in both emotional responses and physical symptoms among the group members.

Discussion

In this study, we observed that during the 1-year-long psychological group therapy, patients with acromegaly started expressing and sharing their feelings with others who had the same disease, started facing the problems of the disease, and coping with them. During the therapy sessions, the participants declared that their QoL improved noticeably, which was supported by the results of the AcroQoL and BDI questionnaires. Several studies have revealed that QoL in patients with acromegaly was compromised (6,12,17,18). The most important factors related to impaired QoL in acromegaly were longer disease duration, disease activity, disease-related comorbidities, female gender, changes in physical appearance, and treatment modalities (8,19,20).

In the literature, the relationship between disease activity and the QoL of patients with acromegaly is controversial. Some studies have reported an improvement in QoL by biochemical remission, whereas researchers of several other studies have not observed any effect of disease activity on QoL (6,8,21-25). In this study, only one patient (Patient-2) had an active disease; however, her results of BDI and Acro-QoL at baseline and follow-up were comparable with those of the other participants, and we could not observe an association between the disease activity and QoL.

The duration of disease and comorbidities related to acromegaly are other factors that have been reported to be related to QoL in studies on acromegaly (17,20,26). In our

study, no significant relationship was observed between the duration of disease or existing comorbidities with the QoL.

Female gender is another factor affecting QoL in acromegaly (8,27). However, in the literature, male participation was low in studies where group therapy was applied due to the frequency of therapy sessions. A 9-week CBT study was conducted with ten patients, and only one of these patients was male. Similarly, in our study, all the participants were female. Therefore, we could not evaluate the effect of sex on the QoL.

Treatment modalities can also affect QoL. Frequent requirements of injection and history of radiotherapy (RT) are associated with decreased QoL in acromegaly (8,19,28,29). In our study, all patients had undergone surgery, two patients had received RT, and six were undergoing medical treatment. Owing to the small study group, we could not establish a correlation of treatment modalities with QoL.

Increased anxiety and depression, changes in personality traits, and decreased effective coping with difficulties have been described in patients with acromegaly (19,30,31). Psychotherapeutic interventions have been demonstrated to be significant in several other chronic diseases, but the data on acromegaly are insufficient. Kunzler et al. designed a study to evaluate the effects of 9-week-long CBT in patients with acromegaly and reported improved QoL (9). The same authors also re-evaluated the patients nine months after the CBT trial to evaluate the long-term effects of the therapy sessions and reported that the improvement of QoL was sustained even then (1). Correspondingly, we designed a psychological focus group therapy with a 1-year follow-up, which is the longest follow-up to date.

Various questionnaires have been used to evaluate the QoL in chronic diseases. Moreover, in some chronic diseases, disease-specific QoL questionnaires have been developed. AcroQoL is a disease-specific questionnaire for acromegaly. Studies that had used AcroQoL have revealed that the physical appearance was the most affected while personal relations were the least affected (19,32). In our study, we observed an improvement in AcroQoL-total scores, but in the subgroup analyses, statistical significance could not be obtained, although the results of appearance and social relations domains were close to significance. Furthermore, we observed strong negative correlations between the physical appearance and BDI scores at the baseline and third month of the study, emphasizing the importance of physical appearance in depression.

The BDI is another scale that is used frequently in studies related to QoL. In the 9-week CBT trial, Kunzler et al. observed no difference in BDI scores in ten patients with acromegaly (9). In contrast, we observed a significant improvement in BDI scores in our study group, which was probably due to the longer duration of our study.

Limitations

Our study has some limitations. The first is the small sample size of the study group. The once-a-week therapy sessions and the 1-year-long study period were the possible reasons for this limitation. No male patients participated in the therapy sessions, also because of the frequency of the sessions and other obligations such as work, which prevented the patients from participating in the study. Nevertheless, our study is important because, to our knowledge, this study has the longest follow-up in literature for the evaluation of psychological group therapy in patients with acromegaly.

Conclusion

The QoL of patients with acromegaly improved significantly with a 1-year-long focus group psychotherapy. The patients gained the ability to face the difficulties caused by their illnesses, expressed their emotional reactions more freely, and showed an improved ability to endure the disease. The support systems built within the group members during the group therapy for one year enabled them to face clinically significant losses (loss of functionality and physical impairments) to a large extent. They could accept some of the changes in their lifestyles after the disease, such as the increased need for emotional support from family members, requiring family members to share their burden of life, as well as the effects of changes in their appearance as a

result of their distorted self-image. Psychotherapeutic approaches, starting with the diagnosis of the disease, might be an important intervention that improves the QoL of patients with acromegaly.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Author Contributions

Idea/Concept: Özlem Haliloğlu, Pınar Kadioğlu; Design: Özlem Haliloğlu, Gökhan Oral, Pınar Kadıoğlu; Control/Supervision: Özlem Haliloğlu, Sema Sözer, Gökhan Oral, Pınar Kadıoğlu; Data Collection and/or Processing: Özlem Haliloğlu, Sema Sözer, Özge Polat Korkmaz, Serdar Şahin, Emre Durcan, Gökhan Oral, Pınar Kadıoğlu; Analysis and/or Interpretation: Özlem Haliloğlu, Sema Sözer, Gökhan Oral, Pınar Kadıoğlu; Literature Review: Özlem Haliloğlu, Sema Sözer, Özge Polat Korkmaz, Serdar Şahin, Emre Durcan, Gökhan Oral, Pınar Kadıoğlu; Writing the Article: Critical Review: Gökhan Oral, Pınar Kadıoğlu; References and Fundings: Sema Sözer, Gökhan Oral; Materials: Özlem Haliloğlu, Sema Sözer, Özge Polat Korkmaz, Serdar Şahin, Emre Durcan, Gökhan Oral, Pınar Kadıoğlu.

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