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The Dual Burden: How Chronic Physical Illnesses Affect Quality of Life and Disability in Psychiatric Outpatients

Çifte Yük: Psikiyatri Polikliniğine Başvuran Hastalarda Eşlik Eden Kronik Bedensel Hastalıkların Yaşam Kalitesi ve Yeti Yitimine Etkisi

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Abstract

Objective: This study aimed to investigate the impact of chronic physical illnesses on quality of life and disability levels in patients presenting to a psychiatric outpatient clinic.

Methods: This retrospective study analyzed data from 173 patients treated at the Clinic of Psychiatry Outpatient Balıkesir University Medical Faculty. The Montgomery-Åsberg depression rating scale, the Hamilton anxiety scale, and the Sheehan disability scale were used to assess depression, anxiety, and functional impairment, respectively. Quality of life was evaluated using the short form-36 health survey (SF-36) questionnaire. Statistical analyses included descriptive statistics, t-tests, chi-square, and multiple regression methods.

Results: Patients with chronic physical illnesses exhibited higher anxiety scores and lower SF-36 scores, particularly in physical functioning and role physical domains. Depression and anxiety levels exerted a strong negative influence on physical functionality. Moderator and mediator analyses suggested that while anxiety may partially mediate the adverse effects of chronic physical illnesses on physical performance, the direct impact of chronic physical illnesses remained substantial.

Conclusion: Chronic physical illnesses can significantly deteriorate quality of life and increase disability in psychiatric patients. Depression and anxiety further exacerbate this negative effect by reducing physical functioning. A comprehensive treatment approach-addressing both the medical and psychiatric components-is essential for managing these patients effectively.

Keywords: Chronic disease, quality of life, psychiatry, depression, anxiety

Öz

Amaç: Bu çalışmanın amacı, psikiyatrik polikliniğe başvuran hastalarda kronik bedensel hastalıkların yaşam kalitesi ve yeti yitimi düzeyleri üzerindeki etkilerini araştırmaktır.

Yöntem: Bu retrospektif çalışma, Balıkesir Tıp Fakültesi Psikiyatri Polikliniği'nde tedavi gören 173 hastadan elde edilen verilerin analizine dayanmaktadır. Depresyon, anksiyete ve işlevsel bozuklukları değerlendirmek amacıyla sırasıyla Montgomery-Åsberg depresyon değerlendirme ölçeği, Hamilton anksiyete ölçeği ve Sheehan yetiyitimi ölçeği kullanılmıştır. Yaşam kalitesi ise 36 maddelik kısa form sağlık anketi (SF-36) ile ölçülmüştür. İstatistiksel analizler, tanımlayıcı istatistikler, t-testleri, ki-kare ve çoklu regresyon yöntemlerini kapsamaktadır.

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Öz

Bulgular: Kronik bedensel hastalığa sahip hastalarda, özellikle fiziksel işlevsellik ve fiziksel rol alt ölçeklerinde, anksiyete puanları yüksek, SF-36 puanları ise düşük bulunmuştur. Depresyon ve anksiyete düzeyleri, fiziksel işlevsellik üzerinde güçlü ve olumsuz bir etki göstermiştir. Moderatör ve mediatör analizler, anksiyetenin kronik bedensel hastalıkların fiziksel performans üzerindeki olumsuz etkilerini kısmen aracılık edebileceğini, ancak kronik bedensel hastalıkların doğrudan etkisinin hala belirgin olduğunu ortaya koymuştur.

Sonuç: Kronik bedensel hastalıklar, psikiyatrik hastalarda yaşam kalitesini önemli ölçüde düşürmekte ve yeti yitimi düzeylerini artırmaktadır. Depresyon ve anksiyete, fiziksel işlevselliği azaltarak bu olumsuz etkiyi daha da şiddetlendirmektedir. Bu nedenle, hem tıbbi hem de psikiyatrik bileşenleri kapsayan bütüncül bir tedavi yaklaşımının benimsenmesi, bu hastaların etkin bir şekilde yönetilmesi için elzemdir.

Anahtar Kelimeler: Kronik hastalıklar, yaşam kalitesi, psikiyatri, depresyon, anksiyete

Introduction

The World Health Organization defines quality of life as "the individual's perception of their circumstances within the framework of their cultural context and value judgments, in relation to their goals, expectations, standards, and interests"[1]. Quality of life is defined as "a concept that influences the degree of personal satisfaction attainable within living conditions and reflects individual responses to illnesses and the physical, psychological, and social impacts of daily existence"[2]. Life is often conceptualized as comprising two fundamental dimensions: its duration and the quality of lived experience. The duration of life has been articulated in connection with complex biomedical data, including death rates and life expectancy. Quality of life constitutes an evaluation that cannot solely be articulated by quantifiable metrics; it encompasses intricate facets of existence and, crucially, is predominantly subjective. It encompasses both the subjective perception of well-being and objective metrics, including health condition and external living circumstances[3].

In this context, quality of life is a multifaceted notion used to elucidate the disease's impact on the patient's life, rather than being specific to any particular illness. As treatment choices in healthcare expand and breakthroughs in disease management proliferate, managing chronic illnesses has become increasingly important. Consequently, pathophysiological parameters associated with the disease have proven inadequate for patient monitoring, necessitating the assessment of additional parameters. Alongside the patient's reported quality of life, the functional impairments resulting from the condition have also garnered interest and have been subject to evaluation[4].

Chronic conditions including diabetes mellitus and hypertension exhibit a complicated interplay with psychiatric disorders. Chronic diseases can impact both the emotional and physical well-being of people. Research indicates that these diseases are frequently linked to anxiety, depression, and other psychiatric problems[5]. Analysis of studies concerning quality of life within psychiatry reveals that several characteristics of quality of life are concurrently impacted in mental conditions such as depression and panic disorder[6,7]. Psychiatric disorders are among the leading causes of disability worldwide, resulting in functional impairments that adversely affect quality of life.

Longitudinal studies by Zheng et al.[8] demonstrate that depression adversely impacts quality of life and disease management in patients with chronic illnesses. Depression exacerbates the progression of the disease by diminishing medication adherence, particularly in diabetes and cardiovascular conditions. Moreover, research indicates that depression treatment enhances social and emotional performance in patients with chronic illnesses; however, it does not produce a substantial improvement in physical functioning. This indicates that addressing psychological symptoms alone may be inadequate to resolve physical dysfunction[9]. The research by Turvey et al.[10] revealed that the correlation between chronic disease and depression is predominantly influenced by functional impairment. The reduction in daily activity and limitations in mobility is a significant risk factor for the onset of depression. The findings indicate that chronic diseases might diminish quality of life not only via medical effects but also through psychosocial functioning impairments[10].

This study seeks to assess the impact of concurrent chronic physical illnesses on quality of life and disability by analyzing the levels in patients attending a psychiatry outpatient clinic.

Materials and Methods

This research was performed as a retrospective scale study at the Psychiatry Polyclinic of Balıkesir University Hospital.

The study received ethics committee approval from Balıkesir University Health Sciences Non-interventional Research Ethics Committee and the necessary permissions for data use from the chief physician (decision no: 2022/95, date: 18.10.2022).

The sample was selected comprising individuals meeting the research criteria among the outpatients at the psychiatry polyclinic. A retrospective evaluation was conducted on the data of 173 patients who fulfilled the required criteria. The sample size was determined by statistical power analysis and the sample sizes of comparable studies. Information was acquired from participants via a data set comprising socio-demographic details and psychiatric assessment measures throughout the data collection process. Various scales were utilized to assess depression, anxiety, functional impairment, and quality of life among the participants in the study.

The Montgomery-Åsberg depression scale was utilized to evaluate depression severity, the Hamilton anxiety scale was used to assess anxiety symptoms, the Sheehan disability scale was used to quantify functional impairment, and the short form-36 health survey (SF-36) quality of life questionnaire (SF-36) was used to gauge overall quality of life. These scales were chosen to systematically evaluate the degree of depression and anxiety, disability, and the impact of these conditions on quality of life.

Statistical Analysis

The study's statistical analysis involved descriptive statistics for socio-demographic data, the chi-square test for categorical variables, and a t-test for continuous variables. Multiple regression analysis was used to investigate the interrelationships among variables. Physical functioning and physical role characteristics were designated as dependent variables, whereas chronic physical illnesses (diabetes mellitus, hypertension, and other chronic kidney diseases), age, gender, socio-economic status, depression, and anxiety were incorporated as independent variables. A multiple regression analysis was conducted to assess the impact of these variables on physical function and physical role.

Mediator analysis was used to examine whether the impact of chronic physical disorders on physical function occurred indirectly via sadness and anxiety. In the mediator analysis, chronic physical illness was designated as the independent variable, physical function and physical role as the dependent variables, and depression and anxiety as the mediating variables. The Sobel test was used to assess the indirect effects in this investigation.

Ultimately, moderator analysis was employed to investigate if the impact of chronic physical illness on physical function and physical role varied among specific groups, such as those differentiated by socio-economic status or gender. The moderator analysis incorporated interaction terms for chronic physical illness × socio-economic level and chronic physical illness × gender to assess their influence on how chronic physical illness affects outcomes. The results were analyzed according to the $p<0.05$ threshold for statistical significance. The explanatory capacity of the regression models was assessed using R^2 values.

Results

Among the 173 patients involved in the study, 34.1% were male (n=59) and 65.9% were female (n=114). The patients who participated comprised: 1.7% were literate (n=3), 29.5% were primary school graduates (n=51), 15.6% were secondary school graduates (n=27), 27.2% were high school graduates (n=47), and 24.9% were university graduates (n=43). 27.7% (n=48) were single, 56.1% (n=97) were married, 8.1% (n=14) were divorced, and 7.5% (n=13) were widowed. Most patients, 80.3% (n=139), resided in a nuclear family, whereas 11.6% (n=20) lived in an extended family. The predominant psychiatric diagnoses among the patients were anxiety disorder (34.7%), depressive disorders (32.4%), and comorbid depression and anxiety disorders (6.4%). No substantial difference was seen between patients with and without concomitant physical chronic diseases regarding education level, marital status, occupation, family structure, and socio-economic status. The percentage of female patients was greater in the cohort with concomitant physical conditions ($p<0.05$). The Hamilton anxiety scale scores were elevated in the cohort with concomitant chronic physical illness ($p<0.05$). The average scores across all aspects of the SF-36 were diminished in the cohort with concomitant chronic kidney disease, with statistically significant differences observed in physical function ($p<0.05$), physical role limitation ($p<0.05$), and general health perception ($p<0.05$). Scores on the Sheehan disability scale were elevated in the cohort with concomitant chronic physical illness, and the impairment in social functioning was statistically significant ($p<0.05$) (Table 1).

Results of Regression Analysis

The impact of chronic physical illness on physical function and physical role was analyzed while controlling for age, gender, socio-economic status, depression, and anxiety. The regression analysis indicated that the impact of diabetes

mellitus on physical function was marginally significant (β=-13.34, p=0.082), although it did not significantly affect physical role (p=0.56). The impact of hypertension and other chronic illnesses on physical functioning was not statistically significant (p>0.05). Conversely, depression and anxiety exhibited a robust and significant detrimental impact on physical functioning across all models (p<0.05). Depression and anxiety were identified as the primary factors contributing to the diversity in physical function and physical role. The model's explanatory power was determined to be 37.6% for diabetes mellitus, 37.1% for hypertension, and 36.8% for other chronic illnesses (Table 2).

Outcomes of Mediator Analysis

The influence of chronic physical illness on physical function and physical role was examined for indirect effects mediated by depression and anxiety. The mediator analysis results indicated that anxiety exhibited a borderline significant mediating influence on physical function (β=-3.78, p=0.097). No substantial indirect effect was seen for depression (β=-3.31, p=0.165). The direct impact of chronic physical illness was significant (β=-20.04, p<0.001). The findings suggest that a portion of the impact of chronic physical illness on physical function may be mediated by anxiety; however, psychological variables alone do not provide a complete explanation (Table 3).

Outcomes of Moderator Analysis

The impact of chronic physical illness on physical function and physical role was examined in relation to socio-economic status and gender. The moderator analysis indicated that gender may exert an independent influence on physical function (β=-38.63, p=0.037). The interaction coefficient was not significant (p=0.39), indicating that the impact of chronic physical illness on physical function is consistent across genders. Socio-economic status did not influence the effect of chronic physical illness on physical function (p>0.05). The study's findings indicate that a portion of the impact of chronic physical illness on physical function may be mediated by anxiety, but its direct effect remains substantial. Hypertension and other chronic disorders were determined to have no substantial impact on

Table 1. Comparison of clinical and functional outcomes between CPI (+) and CPI (-) groups

Variable	CPI (+)	CPI (-)	p
MADRS	21.54	18.40	0.101
Ham-A	21.03	16.67	0.018
Physical functioning	70.56	86.61	0.000
Role physical	42.61	60.71	0.009
Role emotional	38.08	55.00	0.053
Vitality	42.72	49.11	0.237
Mental health	50.40	57.52	0.053
Social functioning	59.58	67.21	0.237
Pain	81.27	85.07	0.440
General health	47.96	58.75	0.006
SDS work	4.47	3.77	0.203
SDS social	4.85	3.47	0.007
SDS family	4.57	3.65	0.085
SDS lost days	1.95	1.34	0.139

Note: The table presents a comparison of clinical and functional outcomes between CPI (+) and CPI (-) groups. The p-value represents the statistical significance of the difference between the two groups, CPI: Chronic physical disease, MADRS: Montgomery-Åsberg depression rating scale, Ham-A: Hamilton anxiety rating scale, SDS: Sheehan disability scale

Table 2. Regression analysis of CPI on physical functioning and physical role

Independent variable	B (physical function)	p (physical function)	R^2 (physical function)	B (physical role)	p (physical role)	R^2 (physical role)
CPI (+)	-4.65	0.538	0.929	8.84	0.690	0.764

Note: The regression analyses examine the effect of CKD on physical functioning and physical role. Age, gender, socio-economic status, depression (MADRS), and anxiety (HAM-A) were controlled. CPI: Chronic physical disease, B (interaction): The regression coefficient for the interaction term, R^2: The coefficient of determination, MADRS: Montgomery-Åsberg depression rating scale, Ham-A: Hamilton anxiety rating scale

Table 3. Mediating effect of anxiety on the relationship between CPI and physical functioning

Independent variable	B (anxiety)	p (anxiety)	R^2 (anxiety)	B (physical function)	p (physical function)	R^2 (physical function)
CPI (+)	2.46	0.229	0.052	-4.65	0.538	0.929

Note: The mediator analysis tests whether the effect of CPI on physical functioning operates through anxiety. CPI: Chronic physical disease, B (interaction): The regression coefficient for the interaction term, R^2: The coefficient of determination

physical function. Conversely, depression and anxiety were identified as the primary determinants impacting physical functionality. These findings indicate that physical health issues must be assessed in conjunction with both biological and mental factors (Table 4).

Discussion

It is widely recognized that chronic diseases have a substantial adverse effect on an individual's overall quality of life. Individuals suffering from these diseases often experience psychiatric disorders, particularly anxiety and depression, which can exacerbate the deterioration in quality of life caused by the illness. Literature indicates that anxiety in specific chronic disease populations, such as diabetes mellitus and hypertension, has a significant and adverse impact on quality of life[11,12]. This situation underscores the necessity of considering mental illnesses in the therapy of chronic diseases.

Data indicate that the comorbidity of chronic physical and psychiatric conditions adversely impacts quality of life. The coexistence of an additional mental disorder in persons with type 2 diabetes mellitus markedly diminishes quality of life ratings[12]. In a study involving long-term type 2 diabetes mellitus patients, it was seen that the scores across nearly all categories of the SF-36 scale dramatically declined when levels of anxiety and depression escalated[13]. This study indicates that psychiatric comorbidity adversely impacts quality of life in both physical and psychosocial domains in chronic conditions. In the comorbidity of anxiety disorder and diabetes mellitus, it has been observed that the SF-36 physical and emotional function scores of patients with elevated anxiety levels are significantly diminished, even after adjusting for variables such as age, body mass index, and hemoglobin A1c. As anxiety severity escalates, the physical capacity and psychosocial well-being of patients decline independently. A notable decline was observed in the subscales of physical function, emotional role, general health perception, and mental disorders in individuals with chronic physical illnesses assessed in this study. These findings align with prior research indicating that the presence of anxiety and depression significantly diminishes quality of life in chronic illnesses. An elevation in anxiety levels leads to increased impairment in all assessed dimensions and results in individuals encountering additional challenges in maintaining their daily activities. Consequently, it has been reiterated that psychological comorbidities associated with chronic disorders must be included in treatment planning. Our recent data indicate that the impact of diabetes on physical functioning continues at a marginally significant level, but other chronic conditions, such as hypertension, do not significantly affect physical function or physical role limitation. This circumstance is partially similar to some research studies in the literature. Verhaak et al.[14] and Unützer et al.[15] indicated that mental states induce greater variability than physical ailments, and the impact of physical disorders on overall quality of life and functionality intensifies in the presence of comorbid psychiatric symptoms. Consequently, although the impact of chronic conditions like diabetes mellitus or hypertension on physical performance deterioration is minimal, the substantial adverse influence of patients' depression and anxiety scores on this performance aligns with other prior studies[16]. The findings suggest that the impact of anxiety on physical function may be partially mitigated, aligning with certain model-based research on chronic disorders[14]. Despite the absence of a substantial mediating effect of depression in the research, it has been proposed that anxiety symptoms may exacerbate the detrimental impact on physical performance by heightening somatic complaints and the impression of restrictions in everyday tasks. Nonetheless, the substantial direct impact of chronic physical illness on physical function (β=–20.04, $p<0.001$) indicates that the biological or pathophysiological mechanisms of chronic illnesses continue to be the primary determining factor[14]. In this context, it is important to note that mental factors cannot entirely account for the effect in question; rather, they serve a mediating or facilitating role to some degree. In analogous studies where the impact of diabetes mellitus or hypertension on physical role restriction was deemed "statistically insignificant", the limitations on specific organ functions associated with these chronic diseases become more pronounced when combined with other comorbid health issues, particularly depressive or anxious symptoms[17]. The present study demonstrates that

Table 4. Moderating effect of gender on the relationship between CPI and physical functioning

Independent variable	Moderator variable	B (interaction)	p	R^2
CPI (+)	Gender	25.28	0.013	0.188

Note: The moderator analysis tests whether the effect of CPI on physical functioning varies by gender. CPI: Chronic physical disease, B (interaction): The regression coefficient for the interaction term, R^2: The coefficient of determination

depression and anxiety scores possess significant explanatory power, alongside controlled factors such as age, gender, and socio-economic status. This underscores the importance of mental status as a critical variable affecting physical functioning, independent of chronic physical illnesses. In summary, a comprehensive treatment strategy for anxiety and depression can partially mitigate the decline in physical function associated with chronic illnesses, underscoring the significance of integrating psychiatric support into healthcare services[18,19].

Our study's moderator analyses revealed that gender significantly influences physical functioning. However, it does not alter the effect of chronic physical illness on physical functioning, nor does socio-economic status impact this relationship. The findings suggest that the impact of chronic physical illness on physical functioning varies based on specific socio-demographic characteristics. Our moderator analysis indicates that gender exerts an independent effect; however, this does not alter the relationship between chronic physical illness and physical functioning. Previous studies have indicated that gender may influence outcomes related to quality of life and functionality in chronic illnesses[20,21]. Conversely, although certain studies indicate that the decline in physical functionality resulting from chronic disease may be more significant in women, other research has not found a comparable effect[19].

Our study indicates that gender alone significantly affects physical function (β=-38.63, p=0.037), which aligns partially with prior research. The interaction coefficient's non-significance (p=0.39) indicates that the impact of chronic physical illness on physical function is likely comparable between women and men. The direct effect of chronic physical illness on physical functionality is consistent across genders. This finding highlights the significance of gender as a variable in assessing the overall functionality and quality of life of patients, particularly in cases of physical multimorbidities associated with anxiety or depression[22]. However, the lack of an interaction effect indicates that gender does not consistently exert a decisive influence[21].

The results of our study indicate that socio-economic status did not significantly alter the impact of chronic physical illness on physical functioning (p>0.05), suggesting that the direct burden of chronic diseases may outweigh the influence of socio-economic factors. While certain studies point out the relevance of factors like social support and treatment access, particularly in the context of psychiatric comorbidity, they indicate that attributing the extent of physical function loss exclusively to socio-economic status is challenging[19,20].

Our results indicate the independent effect of gender and the limited influence of socio-economic status, suggesting that the physical function loss associated with chronic physical illness primarily stems from the disease itself, with limited interaction with sociodemographic factors.

Study Limitations

This study's most significant limitation is its retrospective and single-center design, which may restrict generalizability of its results to the general population. Furthermore, the cross-sectional data collection method obstructs the precise identification of potential causal relationships between mental factors and chronic diseases. The reliance on self-reporting for the scales may introduce a risk of response bias among participants. In addition, the detailed examination of subgroups of chronic diseases and other concomitant comorbidities was not feasible.

Conclusion

The results of this study showed that chronic physical illness has a direct and significant effect on both quality of life and disability in patients visiting the psychiatry outpatient clinic. Elevated anxiety levels adversely impacted quality of life, leading to greater restrictions in physical and social functioning. Depression and anxiety emerged as the most significant determinants of diminished physical functionality. Nevertheless, it was concluded that the influence of chronic physical illness on physical function is too strong to be solely attributed to psychiatric variables; hence, the biological aspect of the condition must also be considered.

In conclusion, with the physical constraints imposed by chronic illnesses, it is essential for a comprehensive treatment strategy to address concurrent mental health conditions such as depression and anxiety. The study findings underscore the necessity of a multidisciplinary approach in treatment planning for psychiatric patients with chronic physical illness and highlight the significance of assessing patients through both biological and psychiatric perspectives. This method may offer a more efficacious treatment process by addressing not only symptom alleviation but also the maintenance or enhancement of overall functionality.

Ethics

Ethics Committee Approval: The study received ethics committee approval from Balıkesir University Health Sciences Non-interventional Research Ethics Committee and the necessary permissions for data use from the chief physician (decision no: 2022/95, date: 18.10.2022)

Informed Consent: Retrospective study.

Footnotes

Authorship Contributions

Surgical and Medical Practices: D.A., I.B., Concept: D.A., I.B., Design: D.A., I.B., Data Collection or Processing: D.A., I.B., Analysis or Interpretation: D.A., Literature Search: D.A., I.B., Writing: D.A.

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