Evaluation of Locomotor System Related Disability and Objection Reports in Patients Applying to the Disabled Health Board

Engelli Sağlık Kuruluna Başvuran Hastalarda Lökomotor Sisteme Bağlı Engellilik ve İtiraz Raporlarının Değerlendirilmesi

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Geliş Tarihi/Received: 31.12.2024 Kabul Tarihi/Accepted: 04.03.2025

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Hippocrates Medical Journal / Hippocrates Med J 2025, 5(1): 25-30 DOI: 10.58961/hmj.1610559

Abstract

Objective	The aim of this study is to analyze the most common problems related to the musculoskeletal system and to increase awareness by determining the reasons for objections to disability rates.
Materials and Methods	A retrospective review of 1643 files belonging to patients who applied to Adult Health Board between January 2023 and September 2023 was conducted. Demographic data of the patients such as age and gender, reasons for application, locomotor and total disability rates, duration of the report, dependency levels, distribution of musculoskeletal system diagnosis, reasons for objection, and disability rates after objection were recorded.
Results	The mean age of the patients was 55.73±17.3, the mean total disability rate was 62.86±26.9, and 74.6% were independent. The highest application rate was for the disabled identity card + special consumption tax discount with 444 patients. While 1316 patients had musculoskeletal system pathology, the most common diagnosis was disc herniation. 36 of the files in the study were objection files. A statistically significant difference was found in the comparisons of the total disability rate (0.013) and Physical Medicine and Rehabilitation (PMR) disability rate (0.055) before and after the objection.
Conclusion	We believe that health board data will support the delivery of the necessary socioeconomic support and rehabilitation treatments to disabled individuals and their integration into society.
Keywords	Disability, objection, musculoskeletal system, medical board

Özet

Amaç	Bu çalışma ile kas iskelet sistemi ile ilgili en sık sorunlarının neler olduğunu analiz etmek ve engellilik oranlarında itirazın hangi nedenlerle yapıldığını tespit ederek farkındalığı artırmak amaçlanmıştır.
Gereç ve Yöntemler	Ocak 2023-Eylül 2023 tarihleri arasında Erişkin Sağlık Kurulu'na başvuran hastalara ait 1643 dosya retrospektif incelendi. Hastaların yaş, cinsiyet gibi demografik verileri, başvuru nedenleri, lökomotor ve toplam engellilik oranları, raporun süresi, bağımlılık seviyeleri, Fiziksel Tıp ve Rehabilitasyon (FTR) dalına ait başvuru tanılarının dağılımı, itiraz nedenleri, itiraz sonrası engellilik oranları kaydedildi.
Bulgular	Hastaların yaş ortalaması 55.73±17.3, total engel oranı ortalaması 62.86±26.9 iken %74.6 sı bağımsızdı. En yüksek başvuru oranı 444 hasta ile engelli kimlik kartı + özel tüketim vergisi indirimi içindi. 1316 hastada kas iskelet sistemi patolojisi bulunurken, en sık tanı disk hernisiydi. Çalışmadaki dosyalardan 36 tanesi de itiraz dosyasıydı. Toplam engel oranın (0,013) ve FTR engel oranının (0.055) itiraz öncesi ve sonrası yapılan karşılaştırmalarında istatistiksel olarak anlamlı fark saptandı.
Sonuç	Engelli bireylere gereken sosyoekonomik destek ve rehabilitasyon tedavilerinin ulaştırılabilmesine, bireylerin topluma kazandırılmasına sağlık kurulu verilerinin destek olacağını düşünüyoruz.
Anahtar Kelimeler	Engelli, itiraz, kas-iskelet sistemi, sağlık kurulu

INTRODUCTION

As the world's population grows and life expectancy increases, the proportion of older people is steadily increasing, making the population more vulnerable to non-communicable diseases, including musculoskeletal disorders (MSDs). (1) The term disability has many different meanings in different contexts, but generally refers to any short- or long-term loss of health (covering functionality in several domains such as mobility, emotional state, cognition and pain), excluding death. (2) The World Health Organisation has standardised the definition of disability through the International Classification of Functioning, Disability and Health (ICF) system. (3) A disabled person is a person who has difficulties in performing activities of daily living due to varying degrees of health impairment. (4) As a member of society, a disabled person, like non-disabled persons, should receive the necessary support in the health, social and employment fields, depending on the level of development of the country in which he/she is located. (5)

Disabled people can apply to the health authorities in certain hospitals for a report on their degree of disability in order to receive the services they need. In our country, applications for assessment of disability and handicap are accepted at health boards under the "Regulation on Disability Assessment for Adults" dated 20.02.2019, number 30692. (6) Worldwide, all musculoskeletal disorders account for 21.3% of the disability rate, second only to mental and behavioural disorders (23.2%). (2) Identifying disabilities caused by musculoskeletal pathologies or developing treatment programs for emerging pathologies is crucial to helping individuals perform their daily living activities and encouraging socialization. To our knowledge, although there are few studies in the literature presenting musculoskeletal pathologies in patients applying to the Health Board, there are no studies examining objection reports.

In our study, it was aimed to analyze the most common problems encountered by patients with musculoskeletal problems and to contribute to the reduction of the workload of Health Boards by determining the most common reasons for objections.

MATERIALS AND METHODS

In our study, the files of patients who applied to the Adult Health Board of İzmir Bakırçay University Çiğli Training and Research Hospital between January 2023 and September 2023 were retrospectively reviewed in the hospital's automated system. The study was completed with 1643 files of patients aged 18 years and older.

Demographic data such as patient age and gender, reasons for claim, locomotor and total disability rates, duration of claim, level of dependency, distribution of claim diagnoses related to the musculoskeletal system, reasons for objection and after objection disability rates were examined. Reasons for application included care allowance, disability card, Law No. 2022 (regarding the granting of monthly benefits to needy, weak and homeless, disabled and needy Turkish citizens over the age of 65), exemption from special consumption tax, tax reductions and admission to nursing homes. The application diagnoses related to the musculoskeletal system were categorised as gonarthrosis, herniated disc, fracture sequelae, stroke, cerebral palsy, paraplegia, peripheral nerve injury, polio sequelae and shoulder pathology. Those with a total body disability rate below 40% were considered independent. Patients who were determined by the board to be unable to perform their daily living activities without the help of others were considered severely disabled.

Statistical analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 24. Normality of quantitative data was assessed using the Shapiro-Wilk test. As the data were not normally distributed, descriptive statistics were presented as median (IQR). Differences between pre- and post-appeal measurements were analysed using the Kruskal-Wallis test. Categorical data were presented as numbers (n) and percentages (%). Data were analysed at the 95% confidence level, and a p-value of less than 0.05 was considered statistically significant.

RESULTS

After reviewing 1643 application files that met the inclusion criteria, the mean age of the patients was 55.73±17.3 years. 68.6% of patients were first-time claimants. The average total disability rate was 62.86±26.9, and 74.6% were independent (Table 1).

When the reasons for applying to the Health Board were examined, the highest number of applications was for a disability card + special consumption tax, with 444 patients. The second most frequent reason was applications for the disability card with 248 patients. This was followed by disability card + law no. 2022 (116), disability card + home care (89), law no. 2022 (44), home care (38), special consumption tax (33) and condition report (25). The number

of patients who applied for more than two reasons was 523 (Figure 1).

Table 1. General characteristics of the participants

	N (%)
Dependency level	
Completely dependent	114 (6.9)
Partially dependent	303 (18.4)
Independent	1226 (74.6)
Application type	
Objection	36 (2.2)
Renewal	431 (26.2)
Initial application	1176 (71.5)
Report period	
Continuous	631 (38.4)
Timed	1012 (61.6)
	Avg±Std
Age	55.73±17.3
Total disability rate	62.86±26.9
PMR disability rate	10.49±16.4

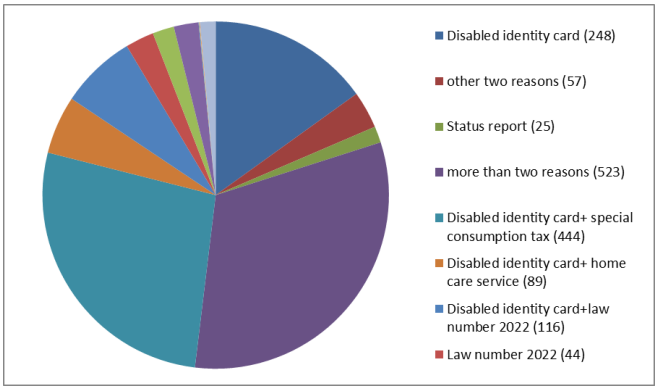

Figure 1. Reasons for applying to the disabled health board

The number of patients without musculoskeletal pathology was 327. Of the remaining 1316 patients, the diagnoses obtained from the Physical Medicine and Rehabilitation (PMR) outpatient clinic showed that disc herniation was the most common diagnosis, found in 277 patients. Fracture sequelae (140) and gonarthrosis (113) were other common diagnoses. Other diagnoses in order of frequency were hemiplegia (69), disc herniation + gonarthrosis (52), other diagnoses associated with disc herniation (46), coxarthrosis (26), shoulder pathology (21), peripheral nerve injury (18), cerebral palsy (CP) (11), and polio sequelae (11) (Figure 2).

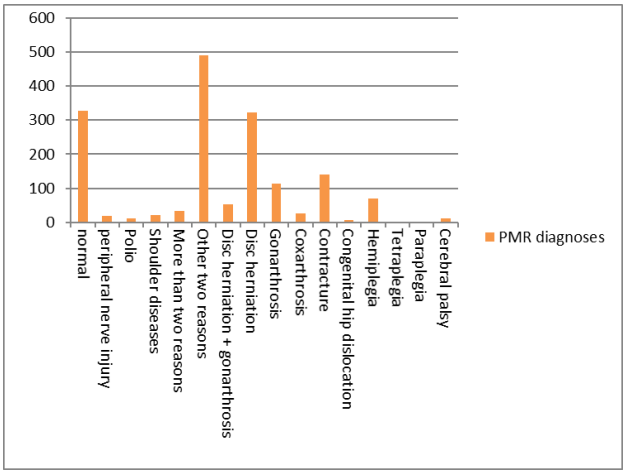

Figure 2. Physical Medicine and Rehabilitation diagnoses in the application to the Disabled Health Board

36 of the files included in the study were objection files. More than two reasons were the primary reason for application. This was followed by special consumption tax and home care fee request (Table 2).

Table 2. Distributions of gender and application reasons in objection reports

	N (%)
Gender	
Female	21 (58.3)
Male	15 (41.7)
Reason for application	
Disabled identity card	4 (11.1)
Disabled identity card+employment	1 (2.8)
Disabled identity card+ special consumption tax	2 (5.6)
Disabled identity card+ home care service	1 (2.8)
Special consumption tax	7 (19.4)
Home care service	5 (13.9)
Special consumption tax+ home care service	2 (5.6)
More than two reasons	14 (38.9)

Looking at the PMR diagnoses in the objection reports, 12 of them had no musculoskeletal pathology. The reasons for objection, in order of frequency, were disc herniation (5), hemiplegia (2), more than two reasons (3), paraplegia (2) and CP (2). There was one patient for each of the other reasons, as shown in Figure 3.

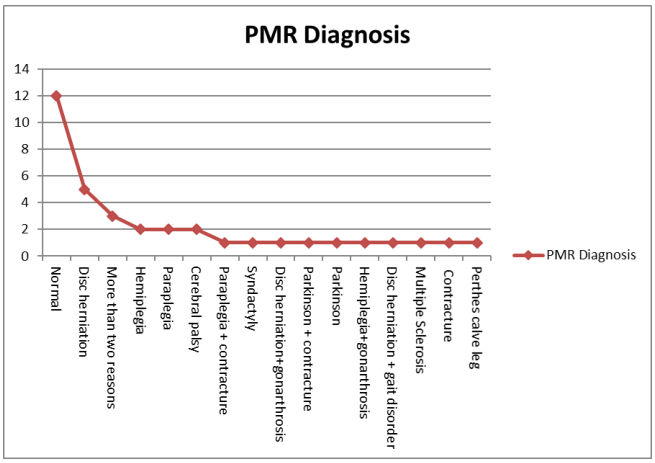

Figure 3. Physical Medicine and Rehabilitation diagnoses in the objection reports

Changes in dependency level and duration of reports before and after the objection are shown in Table 3.

Table 3. Dependency Levels and Report Duration Identifiers

	Before objection		After objection	
	n	%	n	%
Dependency level				
Completely dependent	5	13,9	8	22,2
Partially dependent	13	36,1	15	41,7
Independent	18	50,0	13	36,1
Report period				
Continuous	3	8,3	36	100,0
Timed	33	91,7	0	0,0

When comparing total disability rate (0.013) before and after the objection, statistically significant differences were found (Table 4).

Table 4. Before and After Objection Measurement Differences

	Before objection	After objection	p
Total disability rate Median (IQR)	80,00(36,50-86,75)	81,50(53,25-92,00)	0,013
PMR disability rate Median(IQR)	6,50 (0,00-47,24)	14,00(0,00-53,00)	0,055

DISCUSSION

Our study found that musculoskeletal pathology was one of the most common reasons for applying to the Disability Health Board. Only 19.9% of claimants had no musculoskeletal pathology. Looking at the rates provided by the Physical Medicine and Rehabilitation (PMR) clinic for claims to the Disability Health Board, disc herniation, osteoarthritis and fracture sequelae were the most common diagnoses. In the objection reports, 66.6% contained appeals for the rate of MSS pathology, with disc herniation again the most common from a PMR perspective. When the rate before and after the objection was compared, there was a significant increase in both the total disability rate and the PMR rate.

According to the statistics published by the Ministry of Family, Labour and Social Affairs, the number of registered disabled people is 2.5 million. (7) Considering that there are also unregistered disabled people who are not registered with any public institution, it is of great importance to collect statistical data such as demographic characteristics and medical problems in order to provide equal opportunities to these people. The improvement of the quality of life of disabled people and their contribution to working life is linked to the level of development of the country in which they live. (8)

Rehabilitation is a program that aims to improve the individual's congenital or acquired movement limitations and reintegrate them into society. (8) Therefore, it is important to know the diagnoses relevant to PMR and their frequency. According to our data, 80.1% of the patients who applied to the Disability Health Board had a diagnosis related to PMR. In the analyses conducted by Sarı et al. in Giresun, they found at least one pathology affecting the musculoskeletal system in 62.18% of the applicants. (5) Benli et al. reported that the highest rate of disability in their studies was in the musculoskeletal system (37%), followed by cardiovascular, psychiatric and otorhinolaryngological systems. (9) We attribute the high rate of PMR diagnosis in our study to the inclusion of neurological conditions affecting the nervous system, such as hemiplegia, paraplegia, and cerebral palsy.

The mean age of people applying to the Health Board in our study was 55.73±17.3 years. In the study by Uysal et al, the mean age of applicants to the Health Board was 36.97±25.76 years. (10) In the study by Baltacı et al. in Malatya, the mean age of the cases was 33.18±26.63 years. (11) We attribute the higher average age in our study to the fact that İzmir is the third province with the highest elderly population according to the 2024 data of the Turkish Statistical Institute. With increasing age, changes in organ and system function occur, along with an increase in chronic diseases and associated disability rates. (12)

In our study, the total disability rate was 62.86±26.9 and the PMR disability rate was 10.49±16.4. In the study by Ağır et al, the total disability rate was 58.5±28.9 and the musculoskeletal disability rate was 32.8±24.3; (13) in the study by Terzi et al, the total disability rate was 69.5±28.4 and the musculoskeletal disability rate was 49.43±17.1. (14) The total disability rate in our study is consistent with the literature. The rates given by the PTR department have not been examined in the literature before, and we attribute the low rate compared to the locomotor system disability rate to the fact that the score of neurological diseases affecting the musculoskeletal system (stroke, Parkinson's disease, etc.) is given by the Neurology clinic in our hospital.

In our study, the proportion of people claiming for multiple reasons was 74.2%. The most common single reason for applying was for a disability identity card. In the study by Adar et al, which is consistent with our study, the highest proportion of applications were for multiple reasons at 43.8%. The literature shows that the reasons for application vary. (15) We believe that this situation is due to the needs of the people applying to the board, the age of the people, the province they live in and the system in which the disability exists. In addition, the lower number of applications for reasons such as home care service and special consumption tax exemption may suggest that the overall disability rate in these applications should be high.

There are few studies in the literature examining musculoskeletal system pathologies in applications to the Health Board. In our study, the most common cause was disc herniation, followed by fracture sequelae and gonarthrosis. In the study by Sarı et al, osteoarthritis (OA) was the most common condition, with disc herniation and hemiplegia also being common diagnoses. (5) In the study by Terzi et al, the most common causes were OA, hemiplegia and cerebral palsy, in that order. (14) The low rate of cerebral palsy diagnoses in our study is due to the new regulation published in 2019, which evaluated the 0-18 age group separately. Given the prevalence of herniated discs in society, we would expect this to be the most common diagnosis encountered in the board. In addition, we attribute the low disability rates in the PMR field to the low disability rate associated with disc herniation.

To the best of our knowledge, 36 files were identified in the 9-month period in objection reports that have not been previously examined in terms of the musculoskeletal system in the literature. One third of these files had no musculoskeletal system pathology. When examining the reasons for objection, more than two reasons were the most common (38.9%), followed by requests for special consumption tax exemptions and home care allowances. We believe that patients make more objections in order to collect the total score, as a high disability rate is required to be eligible for applications such as special consumption tax exemption and home care allowances. In terms of musculoskeletal system diagnoses, the most common causes of objections are herniated disc, hemiplegia, and paraplegia. Looking at the disability rates, there was an increase in both the general and PMR rates after the objection. In addition, the number of fully dependent people increased from 13.9% to 22.2%. Although only 2.2% of the 1643 claim files contained objections, we believe that the significant increase in the number of objection files suggests that a comprehensive assessment at the initial claim stage could reduce future workload for the Disability Health Board and prevent patient complaints.

There are some limitations to our study. As there are other hospitals providing Disability Health Board services in İzmir, our results may vary within the province. In addition, as our study was retrospective, our lack of information on the demographics, duration and aetiology of the disabling diseases of the individuals is another limitation. Although we included diagnoses related to musculoskeletal system in our claims to the Disability Health Board, we did not include disability rates attributed to neurological diseases affecting musculoskeletal system that were assessed by the Neurology Department, which is another limitation.

CONCLUSION

As a result, our study examined the reasons for objections to the health board in the field of PMR. We believe that this data will contribute to the reduction of workload in health boards by creating awareness among physicians. In addition, the diagnoses that most frequently contribute to disability were examined, and detailed analysis of this data is important in terms of preventive medicine.As our study is the only one that examines applications to the Health Board in İzmir following the 2019 law update, and as the appeals data were analysed for the first time, we believe we are making a contribution to the literature.

Funding

The authors have no affiliation with any organization related to the subject of the study and the materials used.

Conflicts of interest

There are no conflicts of interest.

Availability of data and materials

The corresponding author will provide any information about the data presented in the article when requested.

Ethical Confirmation

Ethical approval for the study was obtained from the Clinical Research Ethics Committee of Izmir Bakırcay University with decision number 1199/1179 dated 20.09.2023.

Informed Consent

Informed consent was not required.

Authorship Contributions

Concept: E.U.A., F.M.S., Design: E.U.A., F.M.S., Data Collection or Processing: M.C.G., Ö.F.A., Analysis or Interpretation: E.U.A., M.C.G., Literature Search: E.U.A., F.M.S., Writing: E.U.A., Ö.F.A.

REFERENCES

1. Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012 Dec 15;380(9859):2095-128.

2. Murray CJ, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012 Dec 15;380(9859):2197-223.

3. World health organization, Disability, prevention and rehabilitation. Technical Report Series, 668, WHO, Geneve, 1981:1-40

4. Özürlülük Ölçütü, Sınıflandırması ve Özürlülere Verilecek Sağlık Kurulu Raporları Hakkında Yönetmelik. Resmi Gazete: Özürlüler İdaresi Başkanlığı; 30/03/2013. Sayı: 28603.

5. Sarı İF, Tatlı S, Ünal S, Yavuz NÇ, Kulaklı F. Engelli Sağlık Kuruluna Başvurularda Kas-İskelet Sistemi Engelliliklerinin Değerlendirilmesi. Journal of Physical Medicine & Rehabilitation Sciences, 2022:25(1).

6. Resmî Gazete (20.02.2019, Sayı: 30692) sayılı Erişkinler İçin Engellilik Değerlendirmesi Hakkında Yönetmelik; 2019

7. Engelli ve Yaşlı Hizmetleri Genel Müdürlüğü [İnternet]. © 2011 WHO. Engelli ve yaşlı istatistik bülteni Mart 2021.

8. Oral A. Özürlülüğü olan bireylerin topuma yeniden entegrasyonu. Beyazova M, Kutsal YG, editörler. Fiziksel Tıp ve Rehabilitasyon. 2. Baskı. Ankara: Güneş Tıp Kitabevi; 2011. p.105-20.

9. Benli AR, Demir Yazıcı Ş, Yazıcı O, M Çörtük, İ Habibe, NC Benli et al. Evaluation of causes application on medical board. Konuralp Tıp Dergisi. 2016;8:16.

10. Uysal C, Bulut M, Kaya C, Güneş M, Bez Y, Zeren C. Dicle Üniversitesi Hastaneleri Özürlü Kuruluna Başvuran Olguların İncelenmesi. Turkish J Forensic Med. 2012;27(3):146–55.

11. Baltacı H. Analysis of cases referred to the Disability Board of Inonu University Turgut Ozal Medical Center in 2015. Türk Aile Hek Derg 2017; 21 (3): 91-100.

12. Evlice A, Demir T, Aslan K, Bozdemir H, Demirkiran M, Ünal İ. Disability at neurological diseases. Cukurova Med J. 2014;39:566- 71.

13. Ağır H, Tuna M. Evaluation of Locomotor System Disability Rates of Patients Who Apply to the Adult Health Board. Turk J Osteoporos, 2022:28(3), 193-199.

14. Terzi R, Altın F. Examination of the patient's locomotor system disability evaluated in the board of health for disabled. Turk J Osteoporos 2014;20:60-4.

15. Adar S, Yağan Ş, Ertan A, Aydın N, Durmaz S, Gişi A et al. Analysıs Of Reports Prepared By Health Board In Hospıtal Of Afyonkarahısar Health Scıences Unıversıty. Kocatepe Medical Journal, 2021:22(5), 326-33.