

Assessment of Basic-instrumental Activities of Daily Living and Related Factors in Individuals Aged 80 and Over

Seksen Yaş ve Üzerindeki Bireylerin Temel-enstrümental Günlük Yaşam Aktiviteleri ve İlişkili Faktörlerin Değerlendirilmesi

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ABSTRACT

Objective: Chronic diseases, frailty, and external dependence may increase in elderly age. Therefore, age-specific assessment methods have been developed for the elderly. The aim of this manuscript is to investigate the cognitive status, daily living and instrumental daily living situations, and nutritional characteristics of individuals who can be included in the middle-aged and elderly age groups, and to determine their similarities and differences with other age groups.

Material and Methods: In this study, data from 222 participants aged 80-99 were retrospectively examined. The sociodemographic data, cognitive status, basic and instrumental daily living activities, and nutrition of participants were evaluated using the Mini Mental State test (MMST), Katz Index of Independence in Activities of Daily Living, Lawton-Brody Instrumental Activities of Daily Living scale, and Mini Nutritional Assessment test.

Results: The average age of the participants was 84.07, and 61.71% were female. The majority had comorbidities, with an average daily medication use of 4.27. The most common diseases are hypertension, diabetes mellitus, coronary artery disease, osteoporosis, gonarthrosis, and lumbar disc herniation. Participants scored an average of 5.58 out of 6 on the Katz Index of Independence in Activities of Daily Living, an average of 6.90 out of 8 on the Lawton-Brody Instrumental Activities of Daily Living scale, an average of 25.73 out of 30 on the MMST and an average of 11.99 out of 14 on the Mini Nutritional Assessment test. The success of the participants was influenced by age, gender, educational status, number of medications used and existing chronic diseases.

Conclusion: It should be noted that dependence increases, especially in individuals aged 80 and over, all basic and instrumental activities of daily living decrease, and compliance with the treatments to be given may decrease as a result. Assessing elderly adults using valid and reliable short scales can provide a more objective description of their health status.

Keywords: Aging, cognitive status, daily living activities, nutrition

ÖZ

Giriş: Yaşlılık döneminde kronik hastalıklar, kırılabilirlik ve dışa bağımlılık artabilir. Bu nedenle yaşlılarda yaşa özgü değerlendirme yöntemleri geliştirilmiştir. Araştırmanın amacı orta yaşlı ve ileri yaşlı grubuna dahil edilebilen bireylerin bilişsel durumlarını, günlük yaşam ve enstrümental günlük yaşam durumlarını, beslenme özelliklerini araştırarak diğer yaş gruplarıyla benzerlik ve farklılıklarını belirlemektir.

Gereç ve Yöntemler: Araştırmada yaş aralığı 80-99 olan 222 katılımcının verileri retrospektif olarak incelenmiştir. Katılımcıların sosyodemografik verileri, bilişsel durumları, temel ve enstrümental günlük yaşam aktiviteleri, beslenmeleri, standardize Mini Mental test (MMST), Katz Günlük Yaşam Aktivite ölçeği, Lawton Brody Enstrümental Günlük Yaşam Aktivite ölçeği, Mini Nutrisyonel Değerlendirme testi yardımıyla değerlendirilmiştir.

Bulgular: Katılımcıların yaş ortalaması 84,07 olup %61,71'i kadındı. Komorbid hastalıkları olanlar çoğunlukta idi, günlük ortalama 4,27 ilaç kullanımı mevcuttu. En sık karşılaşılan hastalıklar hipertansiyon, diabetes mellitus, koroner arter hastalığı, osteoporoz, gonartroz ve lumbal disk hernisidir. Katılımcılar Katz Günlük Yaşam Aktivite ölçeği'nde 6 üzerinden ortalama 5,58, Lawton Brody Enstrümental Günlük Yaşam Aktivite ölçeği'nden 8 üzerinden ortalama 6,90, MMST'ten 30 üzerinden ortalama 25,73 ve Mini Nutrisyonel Değerlendirme testi'nden 14 üzerinden ortalama 11,99 puan almışlardı. Katılımcıların başarıları yaş, cinsiyet, eğitim durumu, kullanılan ilaç sayısı ve mevcut kronik hastalıklardan etkilenmekteydi.

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Sonuç: Özellikle 80 yaş ve üzeri bireylerde bağımlılığın arttığı, tüm temel ve enstrumental günlük yaşam aktivitelerinin azaldığı, bunlara bağlı olarak verilecek tedavilere uyumun azalabileceği unutulmamalıdır. Yaşlı bireylerin geçerli ve güvenilir kısa ölççekler ile değerlendirilmesi yaşının sağlık durumunu daha objektif biçimde tanımlayabilir.

Anahtar Kelimeler: Yaşlılık, bilişsel durum, günlük yaşam aktiviteleri, nutrisyon.

INTRODUCTION

The distribution of diseases in aging populations differs from that in younger populations. Chronic diseases such as hypertension (HT), diabetes mellitus (DM), coronary artery disease (CAD), osteoporosis, stroke, dementia, and malignancies are more common in the elderly population. In addition, frailty is greater in old age than in the younger population. Falls, immobility, incontinence, vision and hearing loss are common in frail elderly people (1). For all these reasons, age-specific assessment methods should be used in the follow-up of elderly patients.

According to the Turkish Journal of Geriatrics' definition, old age and age scale: 65-74 years old are young elderly, 75-84 years old are middle-aged elderly, and 85 years and older are elderly (2). According to this scale, people in the middle-aged and elderly age groups need a unique assessment that differs from other population groups.

In assessing aging, level of consciousness, participation in daily living activities, level of frailty, and nutritional status must be included alongside a comprehensive history and physical examination. Our research was planned with these reasons in mind.

The aim of this research is to examine the cognitive status, daily living and instrumental daily living conditions, and nutritional characteristics of individuals aged 80 and over, and to determine their similarities and differences with other age groups.

MATERIALS and METHODS

The research was conducted at the Healthy Aging Center of Adana Hospital. It is retrospective. All patients were 80 years of age and older. Ethical approval was obtained from the Scientific Research Ethics Committee of University of Health Sciences Türkiye, Adana Training and Research Hospital (decision number: 818, date: 23.10. 2025).

The data collected in the study consisted of five components: sociodemographic data, the Mini Mental State Examination (MMSE), the Katz Activity of Daily Living scale (Katz ADL), the Lawton Brody Enstrumental Daily Living Assessment scale (Lawton Brody EADL), and the Mini Nutritional Assessment test (MNT).

The MMSE was developed by Folstein et al. (3) in 1975 and is a widely used test worldwide for assessing cognitive status. A Turkish validity and reliability study was conducted by Güngen et al. (4). A Turkish validity and reliability study of the modified MMSE-education (E) form for untrained

groups was conducted by Babacan-Yıldız et al. (5). The MMSE consists of 11 questions, with a score range of 0-30. As the score obtained on the scale increases, it is concluded that the person's memory and cognitive level are better.

The Katz ADL was developed by Katz et al. (6). The Turkish validity and reliability study was conducted by Özkan Pehlivanoğlu et al. (7). Katz examines activities under 6 subheadings; 6 points indicate fully independent individuals, and 0 points indicate fully dependent individuals.

The Lawton Brody EADL was developed by Lawton and Brody (8). The Turkish validity and reliability study was published by Güzel et al. (9). The scale examines activities under 8 subheadings, the score range is 0-8, high scores indicate greater independence in instrumental daily living activities.

The MNT was developed and published by Rubenstein et al. (10). The Turkish validity and reliability study of the scale was conducted and published by Sarikaya et al (11). Scores in the MNT can range from 0 to 14. Higher scores indicate better nutritional levels, while scores of 7 and below favor malnutrition.

Data was collected through archival research, and no sample size was determined. All individuals who applied to the Healthy Aging Center of Adana Training and Research Hospital between October 1, 2023, and October 1, 2025, were included in the study.

Twenty-two hundred and fifty people applied to the Healthy Aging Center of Adana Training and Research Hospital between October 1, 2023, and October 1, 2025. When this number is accepted as the universe, the sample size was calculated as 143 with a 95% confidence level, 5% margin of error, and 95% power. In the calculation, the formula for calculating the sample size with a known population was used. However, the study reached the entire population and was conducted with 225 participants.

Statistical Analysis

Statistical analysis was performed using the IBM SPSS 22.0 software package, and a significance level of $p < 0.05$ was accepted.

Descriptive statistics were determined using numbers, percentages, minimums, maximums, mean, and standard deviations. The normality of the distribution of numerical data was analyzed using the Kolmogorov-Smirnov test. The Kruskal-Wallis test and the Mann-Whitney U test were used to compare numerical data relative to a categorical variable. The Fisher's exact test was used to compare categorical data. The strength and direction of the relationship between 2 numerical variables were evaluated using Spearman's correlation analysis.

RESULTS

The total number of patients was 222, 61.71% (n=137) were female and 38.29% (n=85) were male. The age range was 80-99, with an average age of 84.07±3.28. The majority of patients had received primary education or less. 26.6% had never attended school, 30.2% were primary school graduates, 3.6% were secondary school graduates, 9.5% were high school graduates, and 10.8% were university graduates or higher.

The majority of patients had comorbidities. The most common diseases were HT, DM, CAD, osteoporosis, gonarthrosis, and lumbar disc herniation. The distribution is shown in Figure 1. The number of medications used varies between 0 and 13, with an average of 4.27±2.68.

The MMSE was administered differently to trained and untrained individuals. Those who answered the trained MMSE questions (n=196) scored an average of 25.73±3.24, while those who answered the untrained MMSE questions (n=26) scored an average of 22.8±5.13. Patients scored an average of 5.58±0.93 on the Katz ADL, 6.90±1.69 on the Lawton Brody ADL, and 11.99±2.03 on the MNT.

Positive scores were obtained on the following items of the Katz ADL: bathing 89.63% (n=199), dressing 91.44% (n=203), toilet use 97.30% (n=216), transfer 98.64% (n=219), incontinence 80.18% (n=178), and nutrition 99.54% (n=222).

The Lawton Brody EADL items were found to be successful in the following percentages: using a telephone 86.93% (n=193), shopping 73.87% (n=164), preparing meals 80.18% (n=178), cleaning the house 76.12% (n=169), doing laundry 83.33% (n=185), traveling 98.64% (n=219), taking medication regularly 95.04% (n=211), and managing finances 88.73% (n=197).

Patients scored an average of 1.72 points on the question “Has there been a decrease in nutrient intake from MNT?” 2.71 points on weight loss in the last 3 months, 1.83 points on physical activity, 1.89 points on emotional stress in the last 3 months, 1.79 points on neuropsychological problems, and 1.56 points on body mass index. High scores on all items indicate better nutrition.

The relationships between patients’ age, number of medications taken, and total scores on the scales were evaluated using Spearman’s correlation analysis. The results are shown in Table 1.

The average age of our patients according to gender, the number of medications they use daily, their MMSE score, Lawton Brody EADL score, and MNT score were all similar. The difference was not statistically significant; the p-values were 0.415, 0.784, 0.808, 0.871, and 0.507, respectively. In addition, male patients scored higher than female patients on the Katz ADL. Male patients scored an average of 5.75±0.61 points, while female patients scored 5.44±1.04 points (p=0.017).

When we evaluated the distribution of diseases according to the gender of the patients, we found that HT, osteoporosis, and gonarthrosis were more prevalent in female patients than in male patients. The p-values were 0.000, 0.000, and 0.048, respectively. However, there was no statistically significant difference between genders for DM, CAD, and lateral dysplasia of the heart. The p-values were 0.259, 0.413, and 0.483, respectively.

There was no statistically significant difference between the ages and educational levels of the patients (p=0.450). There was also no logarithmic relationship between the number of drugs used and the level of education. However, the group using the most drugs were middle school graduates, and

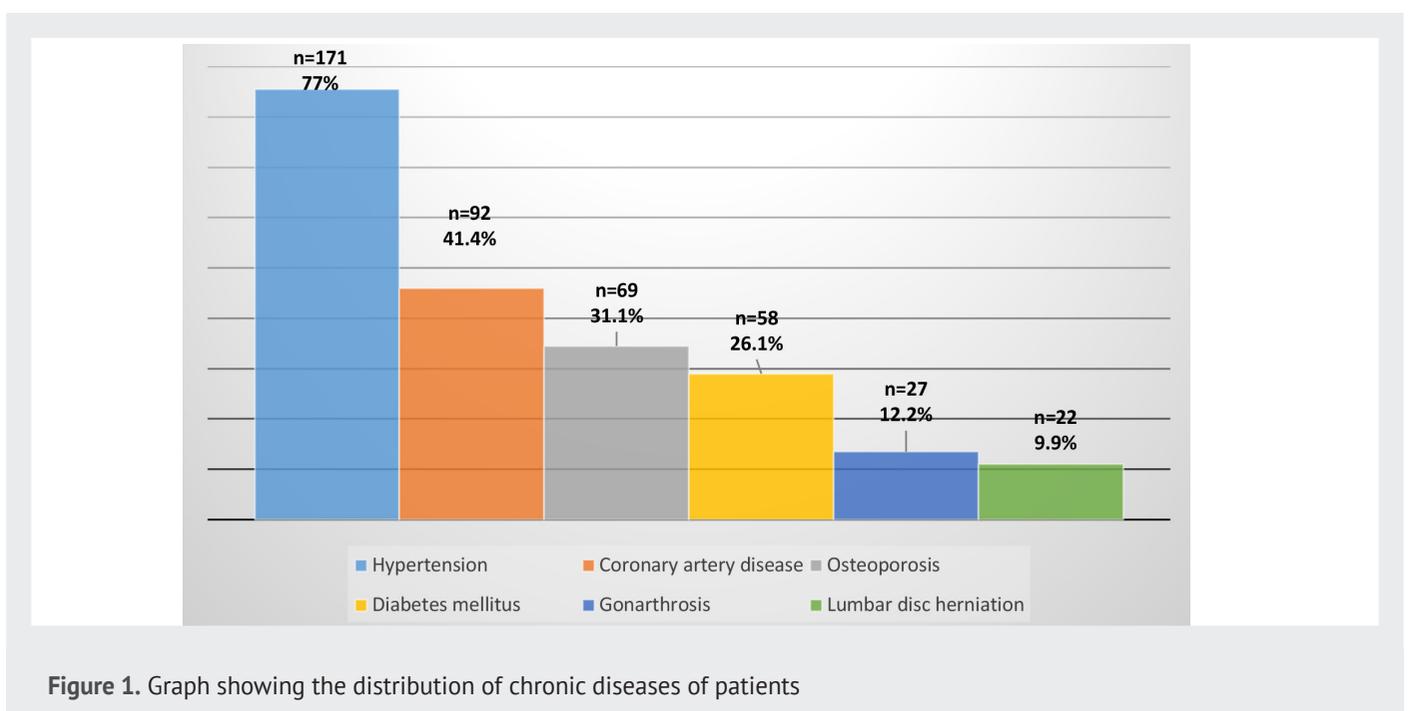


Figure 1. Graph showing the distribution of chronic diseases of patients

the group using the least drugs were university graduates (p=0.039).

The patients' education level statistically significantly affected all assessment tests. The distribution is shown in Table 2.

Tables 3-6 show the distribution of geriatric assessment tools used by patients according to the four most common diseases among them.

Table 3 shows the distribution according to HT. Patients with HT use more medication than those without HT, and they scored lower on the Katz ADL assessment. However, patients with HT have higher nutritional achievement than those without HT. The results are statistically significant (Table 3).

Table 4 shows the distribution according to the presence of CAD. Patients with CAD use more medication than those without. However, there are no statistically significant differences in the other parameters evaluated (Table 4).

Table 5 shows patients evaluated according to the presence of osteoporosis. Patients with osteoporosis were older, used more medications, and scored higher on the MMSE and MMSE-E. However, patients with osteoporosis scored lower on daily living, instrumental daily living, and nutrition assessments. None of the results were statistically significant (Table 5).

Table 6 evaluates the distribution according to DM. Accordingly, patients with DM are younger and use more medications. The results are statistically significant. However, cognitive assessment, activities of daily living, instrumental activities of daily living, and nutritional assessment do not show statistically significant differences according to DM (Table 6).

DISCUSSION

The aging can make people more vulnerable biologically, psychologically, and socially. There was a statistically

insignificant negative correlation between our patients' ages and their MMSE, Katz ADL, Lawton Brody ADL, and MNT scores (Table 1). Undoubtedly, there are many sociodemographic and clinical factors that contribute to this outcome. In our study, we evaluated some of these factors. Our results and some data from the literature are as follows:

In the research, the average age of our patients was 84.07, and female patients constituted 61.71%. Similarly, in a randomized controlled trial conducted with elderly people in Denmark, the average age was 78, and women were included in the study at a rate of 56% (12). In another study where the sample group was elderly individuals, 61% of the patients were women (13). Our sample group is similar in nature to the research in the literature that works with the elderly. This situation may be due both to the fact that women benefit more from health services and that women have a longer life expectancy at birth than men.

Of our patients, 26.6% had never attended school and 30.2% were primary school graduates. According to the Turkish Statistical Institute 2019 data, 32.8% of the elderly population in our country had never attended school while 45.5% were primary school graduates (14). Our patients were found to have received more formal education than the national average. We believe this difference may be due to the fact that the institution where we conducted the research is a tertiary hospital.

Chronic diseases are more common in older age groups. In our study, most of our patients had at least one chronic disease. The three most common chronic diseases we encountered were HT, CAD, and osteoporosis. In a study conducted with elderly people in China, the most common chronic diseases were cardiovascular diseases (15). Another study conducted in America also mentions an increase in chronic diseases

Table 1. Correlation distribution of elderly assessment tools according to age and number of medications

	Age	Number of medicines	MMSE	MMSE-E	Katz ADL	Lawton Brody EADL	MNT
Age	r	-0.021	-0.099	0.010	-0.111	-0.121	-0.023
	p	0.753	0.403	0.913	0.100	0.072	0.738
Number of medicines	r	-0.021	-0.065	-0.036	-0.100	0.074	0.071
	p	0.753	0.592	0.690	0.139	0.277	0.297
MMSE	r	-0.099	-0.065	.	-0.105	-0.098	-0.024
	p	0.403	.0592	.	0.377	0.410	0.840
MMSE-E	r	0.010	-0.036	.	-0.030	-0.154	0.124
	p	0.913	0.690	.	0.738	0.087	0.175
Katz ADL	r	-0.111	-0.100	-0.105	-0.030	0.479	0.089
	p	0.100	0.139	0.377	0.738	0.000	0.188
Lawton Brody EADL	r	-0.121	0.074	-0.098	-0.154	0.479	0.235
	p	0.072	0.277	0.410	0.087	0.000	0.000
MNT	r	-0.023	0.071	-0.024	0.124	0.089	0.235
	p	0.738	0.297	0.840	0.175	0.188	0.000

MMSE: Mini Mental State Examination, MMSE-E: Mini Mental State Examination education, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test

Table 2. Distribution of elderly assessment tools according to educational status

	Education	Mean	Standard deviation	Effect size= ξ^2R^{**}	p-value [†]
MMSE	Primary school	24.82	3.627	0.242	0.001
	Secondary school	22.00	2.828		
	High school	26.47	2.366		
	University	27.50	1.745		
	No education	5.457	0.934		
Katz ADL	Primary school	5.343	1.162	0.188	0.027
	Secondary school	5.875	0.353		
	High school	5.904	0.300		
	University	5.875	0.337		
	No education	6.559	1.812		
Lawton EADL	Primary school	6.731	1.523	0.292	0.002
	Secondary school	7.750	0.462		
	High school	7.571	0.746		
	University	7.666	0.761		
	No education	11.932	1.680		
MNT	Primary school	12.149	1.860	0.162	0.048
	Secondary school	13.250	0.707		
	High school	12.047	3.057		
	University	12.708	1.160		

[†]Kruskal-Wallis test, ^{**}The formula for effect size in the Kruskal Wallis Test is as follows: Small ≥ 0.01 , medium ≥ 0.06 , large ≥ 0.14 . Ranges for is from 0 to 1, with higher values indicating a larger effect

MMSE: Mini Mental State Examination, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test

Table 3. Distribution of hypertension and elderly assessment tools

	HT	Mean	Standard deviation	Effect size= Irl^{**}	p-value [†]
Age	No	83.255	2.441	0.00	0.902
	Yes	85.093	3.256		
Number of medicines	No	1.727	2.316	0.48	0.000
	Yes	4.924	2.388		
MMSE	No	25.69	3.146	0.00	0.839
	Yes	25.73	3.293		
MMSE-E	No	20.965	7.876	0.09	0.300
	Yes	23.389	3.854		
Katz ADL	No	5.851	0.658	0.15	0.021
	Yes	5.497	0.990		
Lawton Brody EADL	No	6.957	1.944	0.00	0.984
	Yes	6.871	1.636		
MNT	No	11.341	2.632	0.15	0.023
	Yes	12.152	1.824		

[†]: Mann-Whitney U test, ^{**}: The formula for effect size in the Mann-Whitney U test is as follows: $r = Z/\sqrt{N}$. Small $Irl \geq 0.1$, medium $Irl \geq 0.3$, large $Irl \geq 0.5$. Ranges for Irl is from 0 to 1, with 0 indicating no difference between groups. HT: Hypertension, MMSE: Mini Mental State Examination, MMSE-E: Mini Mental State Examination education, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test

Table 4. Distribution of coronary artery disease and elderly assessment tools					
	CAD	Mean	Standard deviation	Effect size=lrl**	p-value*
Age	No	83.1154	3.215	0.11	0.101
	Yes	85.4348	3.362		
Number of medicines	No	3.3937	2.535	0.48	0.000
	Yes	5.4891	2.397		
MMSE	No	25.45	3.501	0.68	0.734
	Yes	26.03	2.965		
MMSE-E	No	22.6923	5.689	0.03	0.699
	Yes	22.9787	4.109		
Katz ADL	No	5.6154	0.935	0.00	0.331
	Yes	5.5326	0.931		
Lawton Brody EADL	No	6.9077	1.718	0.00	0.887
	Yes	6.8913	1.667		
MNT	No	11.8110	2.252	0.09	0.153
	Yes	12.2391	1.666		

*: Mann Whitney U test, **: The formula for effect size in the Mann-Whitney U test is as follows: $r = Z / \sqrt{N}$. Small lrl ≥ 0.1 , medium lrl ≥ 0.3 , large lrl ≥ 0.5 . Ranges for lrl is from 0 to 1, with 0 indicating no difference between groups
 CAD: Coronary artery disease, MMSE: Mini Mental State Examination education, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test

Table 5. Distribution of osteoporosis and elderly assessment tools					
	Osteoporosis	Mean	Standard deviation	Effect size=lrl**	p-value*
Age	No	83.464	2.316	0.11	0.102
	Yes	85.434	2.987		
Number of medicines	No	4.146	2.740	0.07	0.273
	Yes	4.550	2.546		
MMSE	No	25.55	3.254	0.09	0.420
	Yes	26.28	3.250		
MMSE-E	No	22.597	5.830	0.00	0.833
	Yes	23.186	3.479		
Katz ADL	No	5.568	0.965	0.00	0.746
	Yes	5.608	0.861		
Lawton Brody EADL	No	6.895	1.810	0.00	0.725
	Yes	6.913	1.411		
MNT	No	11.986	2.029	0.00	0.730
	Yes	12.000	2.057		

*: Mann-Whitney U test, **: The formula for effect size in the Mann-Whitney U test is as follows: $r = Z / \sqrt{N}$. Small lrl ≥ 0.1 , medium lrl ≥ 0.3 , large lrl ≥ 0.5 . Ranges for lrl is from 0 to 1, with 0 indicating no difference between groups
 MMSE: Mini Mental State Examination, MMSE-E: Mini Mental State Examination education, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test

with age (16). Our data are consistent with the literature. Increased chronic diseases in old age can lead to a decrease in daily living activities, increased frailty (1) and make elderly individuals more dependent.

A negative correlation was found between the ages of our patients and the MMSE ($r=-0.099$), Katz ADL ($r=-0.111$), Lawton Brody ADL ($r=-0.121$), and MNT ($r=-0.023$) scores.

Age-related chronic diseases, increased frailty, family and environmental losses, falls, and depression can all lead to declines in cognitive abilities, daily living activities, and nutrition in old age (17-19). Our data is consistent with these predictions and the literature.

Our patients scored an average of 5.58 ± 0.93 on the Katz ADL. In another elderly assessment study covering 7 European countries, they scored 6.9 ± 1.67 on the Katz ADL (18).

Table 6. Distribution of diabetes mellitus and elderly assessment tools

	DM	Mean	Standard deviation	Effect size=lrl ^{**}	p-value [*]
Age	No	84.920	3.473	0.15	0.024
	Yes	81.689	4.837		
Number of medicines	No	3.711	2.498	0.36	0.000
	Yes	5.910	2.538		
MMSE	No	26.10	3.029	0.13	0.244
	Yes	24.96	3.593		
MMSE-E	No	23.206	4.274	0.03	0.624
	Yes	21.392	7.319		
Katz ADL	No	5.652	0.772	0.08	0.212
	Yes	5.379	1.268		
Lawton Brody EADL	No	6.884	1.556	0.03	0.606
	Yes	6.948	2.047		
MNT	No	12.055	1.976	0.03	0.630
	Yes	11.803	2.202		

^{*}: Mann-Whitney U test, ^{**}: The formula for effect size in the Mann-Whitney U test is as follows: $r = Z / \sqrt{N}$. Small lrl ≥ 0.1 , medium lrl ≥ 0.3 , large lrl ≥ 0.5 . Ranges for lrl is from 0 to 1, with 0 indicating no difference between groups
 MMSE: Mini Mental State Examination, MMSE-E: Mini Mental State Examination education, Katz ADL: Katz Activity of Daily Living scale, Lawton Brody EADL: Lawton Brody Enstrumental Daily Living Assessment scale, MNT: Mini Nutritional Assessment test, DM: Diabetes mellitus

The fact that the average age of the patients in that study was 77.88, which is younger than our study, may have caused this difference.

In our research, male patients scored higher than female patients on the Katz ADL assessment ($p=0.017$). In a study evaluating the relationship between old age and falls, female patients also had lower total scores on the Katz scale than male patients (20). We believe that this may be because the studies were conducted among people who needed medical assistance and elderly women are more fragile.

When Katz ADL scores were compared according to the presence of chronic diseases, those without hypertension were found to perform better than those with HT ($p=0.021$). Although not statistically significant, the performance of those without CAD was higher than that of those with CAD ($p=0.331$); the performance of those without diabetes was higher than that of those with diabetes ($p=0.212$). Interestingly, however, patients with osteoporosis had higher Katz ADL scores than those without ($p=0.746$). In a study published in Sri Lanka, the Katz ADL was evaluated according to chronic diseases (17). Accordingly, patients with DM, HT, malignancy, musculoskeletal diseases and/or osteoarthritis have higher averages than those without (17). In another study comparing the scores of patients with and without diabetes on the Katz ADL, patients with DM were found to have lower Katz scores (21). Chronic diseases often negatively affect the daily living activities of the elderly, and our data in this study and the literature support this result.

As the education level of our patients increased, the scores obtained from the daily living activity and instrumental daily living activity scales generally increased. A similar relationship

between education and daily living activity scales was also found in a study conducted with elderly patients in Kayseri (22). Our data is consistent with the literature.

Of the items on the Lawton Brody EADL, patients indicated that they were able to travel the most (98.64%), while they indicated that they were able to shop the least (73.87%). In a study conducted in Indonesia with 55 patients aged 60-90, the item in which the patients were most successful was shopping, and the item in which they were least successful was traveling (23). The reason for this difference may be the differences in the number of patients in the studies and the regions where they were conducted.

In the research, patients' existing chronic diseases and the Lawton Brody EADL were compared, and no statistically significant difference was found. However, in a study comparing patients with osteoarthritis and a control group, it was found that instrumental daily living activities were lower in people with osteoarthritis (24). In another study, it was found that instrumental daily living activities were lower in patients with COPD (25). The reason for this discrepancy may be that the diseases we included were CAD, HT, osteoporosis, and DM, and these other diseases were not evaluated.

The nutritional status of our patients was assessed using the MNT. The study concluded that patients' education levels increased, leading to more accurate nutrition ($p=0.048$). No statistically significant relationship was found between gender and nutrition in our study ($p=0.507$). In a study evaluating nutrition in the elderly, it was stated that MNT scores were lower in the older age group, in women, in elderly people with low education levels, and in elderly people who were financially dependent (26). The results are similar to the

data of our study. In general, we can say that the factors that increase frailty also negatively affect the nutritional level. Patients with HT scored higher on the nutrition tests (mean 12.15) than those without HT (mean 11.34) ($p=0.023$). Similarly, patients with CAD (mean 12.23) scored higher than those without (mean 11.81), and patients with osteoporosis (mean 12.00) scored higher than those without (mean 11.98). However, the results were not statistically significant. When we compared DM and the nutritional assessment test, the results were different from the relationship between other chronic diseases and nutrition. Patients with DM (mean 11.80) scored lower than those without (mean 12.05). According to the results of a study published in Finland, the presence of chronic diseases that increase frailty in the elderly generally negatively affects nutrition (27). In our study, some disease groups of elderly individuals had higher nutrition scores, which was inconsistent with the literature. In all three diseases we evaluated (DM, CAD, osteoporosis), lifestyle changes and regular nutrition are recommended as primary treatment. Therefore, patients may have received nutrition education after receiving their diagnosis. This may be the reason for the contradiction with the literature.

Study Limitation

The research is retrospective in nature and the data is limited to archival records. This is the first limitation of the research. Other limitations of the research include its single-center nature and the number of participants. Therefore, the results cannot be generalized to the population. It may be beneficial to conduct multi-centered and large-scale researches on the subject.

CONCLUSION

In our research evaluating individuals aged eighty and over, patients' basic-instrumental daily living activities, cognitive status, and nutritional status were assessed. Patients scored an average of 5.58 out of 6 on the Katz ADL, 6.90 out of 8 on the Lawton-Brody Instrumental Activities of Daily Living scale, 25.73 out of 30 on the MMSE, and 11.99 out of 14 on the MNT. In short, patients did not achieve 100% success in any of these four sub-categories. Participant success was positively or negatively affected by many parameters such as age, gender, education level, and existing chronic diseases. In the clinical evaluation of patients aged 80 and over, the possibility of increased levels of dependence and decreased abilities in daily living activities, cognitive function, and nutrition should be considered. Therefore, using assessment scales with known validity and reliability in geriatric assessments can help achieve a more objective result.

Ethics

Ethics Committee Approval: Ethical approval was obtained from the Scientific Research Ethics Committee of University of Health Sciences Türkiye, Adana Training and Research Hospital (decision number: 818, date: 23.10. 2025).

Informed Consent: This study is a retrospective study.

Footnotes

Authorship Contributions

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

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