

## ORIGINAL ARTICLE

# Diyabetli bireylerde cinsiyetin ağrı, üst ekstremitte fonksiyonları ve yaşam kalitesi üzerine etkisi

*Influence of gender on pain, upper extremity functions, and quality of life in individuals with diabetes*

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## Öz

**Amaç:** Bu çalışma tip I ve tip II diyabetli hastalarda cinsiyetin ağrı, üst ekstremitte fonksiyonları ve yaşam kalitesi üzerine etkisini araştırmak amacıyla planlandı.

**Yöntemler:** Web tabanlı kesitsel bir araştırma olan bu çalışmaya tip I ve tip II diyabetli olan toplam 130 hasta dahil edildi. Çalışmada, kol, omuz ve el sorunları anketi, Michigan el sonuç anketi, üst ekstremitte ağrı şiddetine yönelik sayısal derecelendirme ölçeği, nöropatik ağrı anketi-Kısa Form, Dünya Sağlık Örgütü yaşam kalitesi anketleri kullanıldı.

**Bulgular:** Kadınların Michigan el sonuç anketine ait ağrı alt ölçeğindeki puanları erkelere göre daha yüksekti ( $p = 0,006$ ), fonksiyon alt ölçeğine ait puanları ise erkelere göre daha düşüktü ( $p=0,037$ ). Kol, omuz ve el sorunları anketi içerisinde bulunan çalışma alt ölçeği puanlarına bakıldığında ise kadınların işlev düzeyinin daha düşük olduğu belirlendi ( $p=0,016$ ).

**Sonuç:** Diyabetin ağrı, üst ekstremitte fonksiyonu ve genel sağlık açısından kadın ve erkekler üzerinde farklı etkileri olabilir. Kadınların ağrı ve üst ekstremitte fonksiyonu açısından erkeklerden daha fazla etkilendiği görülmüştür.

**Anahtar Kelimeler:** El, Diyabet, Üst ekstremitte, Ağrı.

## Abstract

**Purpose:** This study was planned to investigate the effect of gender on pain, upper extremity functions and quality of life in patients with type I and type II diabetes.

**Methods:** A total of 130 patients with type I and type II diabetes were included in this study, which was a web-based cross-sectional study. In the study, arm, shoulder and hand problems questionnaire, Michigan hand outcome questionnaire, numerical rating scale for upper extremity pain severity, neuropathic pain questionnaire-Short Form, and World Health Organization quality of life questionnaires were used.

**Results:** While women's scores on the pain subscale of the Michigan hand outcome questionnaire were higher than men ( $p=0.006$ ), the scores on the function subscale were lower ( $p=0.037$ ). When the working subscale scores of the disabilities of the arm, shoulder and hand questionnaire were examined, it was determined that the function level of women was lower ( $p=0.016$ ).

**Conclusion:** Diabetes has a different impact on men and women in terms of pain, upper extremity function, and overall health. Women appear to be more affected than men in terms of pain and upper extremity function.

**Keywords:** Hand, Diabetes mellitus, Upper extremity, Pain.

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## INTRODUCTION

Diabetes mellitus (DM) is a multifactorial disease that is prevalent worldwide and results in musculoskeletal disorders in more than half of the patients.<sup>1-4</sup> It is estimated that between 2010 and 2030, diabetes will increase in adults by 69% in developing countries and 20% in developed countries.<sup>5</sup> Foot and ankle effects are present in 25% of patients with diabetes. Moreover, one-third of these patients have upper extremity problems.<sup>3-5</sup> Musculoskeletal disorders, such as carpal tunnel syndrome, Dupuytren's disease, tenosynovitis, and limited joint mobility are the most common upper extremity abnormalities. These complications mainly affect the patients' quality of life, functional status, and pain levels.<sup>1-5</sup>

Gender-specific differences impact the pathophysiology, incidence, prevalence, symptoms, course, and response to treatment of numerous diseases.<sup>6</sup> Understanding these differences is important in preventing disease complications and establishing treatment protocols. The physiological effects of sex-specific genes on certain organ systems result in sex differences.<sup>6</sup> In addition to affecting glucose homeostasis and insulin resistance, sex hormones may affect the prevalence, prognosis, and complications associated with the development of type I and type II diabetes.<sup>1,2,6</sup>

Several studies have examined gender differences in type I and type II diabetes.<sup>6</sup> In the literature, the importance of investigating gender-specific physiological differences in diseases with a complex pathophysiology such as diabetes has been emphasized.<sup>6</sup> Revealing these differences has an important place in minimizing the effects of diabetes.<sup>6</sup> In the understanding of evidence-based medicine, both types of diabetes and gender differences have an important place in the treatment of diabetes.<sup>1-6</sup> Investigating gender-specific differences such as glucose homeostasis and insulin may be important for the development of different and personalized treatment methods for diabetes.<sup>1-6</sup>

Although there are studies in the literature investigating the pathophysiological features specific to diabetes, no studies have been found examining how upper extremity functions, pain and quality of life differ according to gender in patients with diabetes.

This study examines the gender-specific differences in terms of upper extremity function, pain, and quality of life between patients with type I and type II diabetes. Another aim of the study is to investigate the effects of diabetes on women's health in terms of upper extremity functions and contribute to literature worldwide.

## METHODS

### Participants

This study was a web-based cross-sectional study. An online survey created using Google Forms was administered to individuals via a social application to their phone number directly between November 8, 2020 and January 29, 2021. Snowball sampling was used for reaching individuals, and researchers used their social network. Participants who fit the study criteria invited to fill the form. The volunteer participants were asked to suggest other contacts who met the research criteria, and the authors reminded their first circle of volunteers twice until reaching the target sample size. Inclusion criteria included individuals aged 18–65 years with type I or type II diabetes. Patients over the age of 65, those with various chronic disorders (cancer, rheumatic diseases, organ dysfunctions, neurological disease etc.), and those who had undergone surgery or were pregnant were all excluded from this study.

Overall, 130 individuals (72 women, 58 men) participated in the study. Researchers reached participants from five cities in different regions of Turkey (Istanbul, Ankara, Gaziantep, Hatay, and Trabzon). The fact that these selected cities were from different geographical locations and regions of Turkey was an important factor in making the choice. Participants were informed about the study, and informed consent was obtained prior to completing the online survey.

### Measurements

The participants' sociodemographic and DM-specific information was obtained, and assessments were conducted to evaluate pain severity, neuropathic pain, functional level of the upper extremity, and quality of life.

**Pain severity:** The Numeric Rating Scale (NRS) was used to assess pain severity in the following upper extremity areas: shoulder,

upper arm, forearm, wrist, hand, and fingers. The NRS can be scored from 0 to 10 points, with 0 points indicating no pain and 10 points indicating the worst pain.<sup>7</sup>

**Neuropathic pain:** Neuropathic Pain Questionnaire-Short Form (NPQ-SF) was used to determine the presence of neuropathic pain, which has three subparameters: tingling pain, numbness, and increased pain due to constant touch. Pain severity is evaluated using a 0 (no pain) to 100 (the most severe pain) scale. Total scores below 0 indicated non-neuropathic pain, and scores above 0 indicated neuropathic pain.<sup>8</sup> The questionnaire was translated into Turkish, and its psychometric properties were conducted in the Turkish population.<sup>9</sup>

**Upper extremity functional level:** The Disabilities of the Arm, Shoulder, and Hand (DASH) was utilized to measure the functional status of the upper extremities.<sup>10</sup> The DASH consists of 30 items and special domains for musicians, sport, and work. The total score of the DASH ranges from 0 to 100, with high scores indicating a low level of function.<sup>10</sup> The DASH measures the three health outcomes identified by the ICF (International Classification of Functioning, Disability and Health), namely, impairments, activity limitations, and participation limitations.<sup>11</sup> The validity and reliability study of the DASH were conducted in the Turkish population.<sup>12</sup>

The Michigan Hand Outcomes Questionnaire (MHQ) was used to assess complaints on the hands and evaluate each hand separately. The questionnaire covers the following domains: function, daily activities, work performance, pain, aesthetics, and satisfaction. A high score in the pain domain indicates worsening, whereas a higher score in all other domains indicates improvement. The total score is calculated by adding the scores of the affected extremity and, if a bilateral extremity is affected, by calculating the average of the six domains.<sup>13</sup> This questionnaire is valid and reliable for the Turkish population.<sup>14</sup>

**Quality of life:** The World Health Organization Quality of Life Questionnaire-BREF (WHOQoL-BREF) assesses the quality of life, which consists of 26 items and four subparameters, including physical health, psychology, social relationships, and environment. This questionnaire is based on a Likert scale, with questions ranging from 1 to 5,

with higher scores indicating a higher level of quality of life.<sup>15</sup> The Turkish version of the questionnaire has reasonable consistency, reliability, and construct validity.<sup>16</sup>

### Statistical analysis

Statistical analysis was conducted using SPSS version 23 software (SPSS Inc., Armonk, New York, USA). The normal distribution of the data was tested using visual (histogram and probability graphs) and analytical methods (Kolmogorov–Smirnov/Shapiro–Wilk tests). Since all questionnaires used in the study did not show a normal distribution, the Mann–Whitney *U* test was used for comparing the differences between the results of the questionnaires. Descriptive analyses were presented using means and standard deviations and using medians and interquartile ranges for the non-normally distributed and ordinal variables (using frequency tables for the ordinal variables). The alpha level was set at 0.05 for all statistical significance tests. The paired *t* test was used for comparison of demographic variables between groups. According to G-power, it was decided to include a total of 128 (min.) individuals in the study (effect size=0.5).

### Ethics

Ethical approval was obtained from the Hasan Kalyoncu University, Faculty of Health Sciences Ethics Committee. Patients were informed of the nature of this study, and a consent form was signed. Patients were informed of their right to withdraw from this study at any time. Approval was obtained with the decision number 2020/47 (date: 18.06.2020). This study has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans.

## RESULTS

The study included 130 participants, 72 women (55.3%) and 58 (44.7%) men, aged 18 to 65 years. The dominant side was the right in 94% ( $n=68$ ) of the women and 93% ( $n=54$ ) of the men. The descriptive characteristics of the individuals are shown in Table 1.

Women had higher pain scores on the pain subscale of the MHQ ( $p=0.006$ ). A significant difference was observed in the Increased Pain from the Constant Touch subscale of the NPQ-

SF ( $p=0.009$ ), with women having higher scores (Table 2). Women had lower scores on the Function subscale of the MHQ ( $p=0.037$ ). The score of the Work subscale of the DASH showed a lower level of function in women ( $p=0.016$ ). Women had lower scores in the Physical Health subscale of the WHOQoL-BREF compared with men ( $p=0.006$ ).

Scores of women and men were compared with respect to the type of DM. Women with type I DM ( $n=34$ ) had better satisfaction scores (right:  $p=0.003$ ; left:  $p=0.002$ ) and better quality of life scores in relation to the Physical Health subscale ( $p=0.02$ ) than type II DM ( $n=38$ ) (Table 3). In men, there was no significant difference in relation to DM type (type1=20, type 2=38) ( $p > 0.05$ ) (Table 4).

## DISCUSSION

DM is a significant health policy issue. Upper extremity symptoms affect many aspects of health in patients with DM. The results of this study showed that the effects of DM were different between men and women. Women reported higher levels of pain intensity and lower functional levels and quality of life compared with men. We believe that our study can contribute to the literature in terms of gender-specific differences in diabetes and provide a different perspective in the development of new strategies to improve the health of individuals with diabetes.

It is stated in the literature that pain affects 25% of the world's population and that demographic characteristics, psychosocial characteristics and hormonal characteristics are important when differences between genders are examined. Since there was no difference between the groups in our study, we think that demographic characteristics are not effective among the factors affecting pain.<sup>17-19</sup> Women have been reported to complain of chronic pain and peripheral neuropathic pain more than men.<sup>18, 19</sup> In our study, although there was no statistical difference between male and female genders in neuropathic pain, it was found that women had more pain in the pain subheading of the MHQ questionnaire, which could be due to their lower pain threshold than men.<sup>18</sup> In a study by Abraham et al., a higher incidence of neuropathic pain was found in women with

DM.<sup>18</sup> In our study, no difference was found in neuropathic pain between the male and female gender. We believe that patient-reported outcomes may be insufficient in the evaluation of neuropathic pain. In addition, it was observed that women had a higher score in the pain subparameter of the MHQ.

In our study, although there was a difference in pain in the MHQ subscale in men and women, the absence of pain in the visual analog scale may be because the way the MHQ asks about pain includes biopsychosocial characteristics, and participants were better able to perceive the questions in the MHQ and better describe the characteristics of pain.

In the MHQ, the right hand was more affected in the activities of daily living in women. In this study, the percentage of those whose dominant side was the right was the greatest in the male and female groups. However, we think that this difference may be due to the fact that women in the society in which the study was conducted have more domestic roles after work than men, although the majority of those with the right dominant side were present in both genders. Women had worse DASH-work scores than men. The fact that they have both work and personal activities may have caused more pain in women. Because DM increases pain more in women, pain-related programs should be implemented in the early stages of rehabilitation in women with DM and included in the treatment program of vocational rehabilitation practices.<sup>19,20</sup>

In a study published in 2022 by Pester et al., they emphasized that the acceptance of the presence of pain sensation varies between sexes.<sup>21</sup> In particular, they stated that men, due to their social beliefs, thought that accepting pain would make them weak, and they reported that they felt less pain in pain assessments than women.<sup>22</sup> Again, in the same study, it was reported that women had no difficulty in accepting the presence of pain compared with men.<sup>21</sup> In another study conducted in 2022, it was stated that gender roles may cause differences in the perception of pain in men and women.<sup>19</sup> Natalie et al. stated that different types of pain may cause different effects in men and women.<sup>22</sup> They emphasized that the incidence of chronic pain is higher in women and that the severity of acute pain is higher.<sup>22</sup> In this study, we are of the opinion that gender affects

Table 1. Demographics of participants.

	Women (N=72)	Men (N=58)	p
	X±SD	X±SD	
Age (years)	45.74±14.67	50.90±9.49	0.167
Body mass index (kg/m <sup>2</sup> )	29.03±7.12	28.18±6.04	0.731
Duration of diabetes (years)	9.22±7.73	8.24±6.78	0.638
Duration of insulin use (years)	6.35±8.19	5.29±6.73	0.913

Table 2. General results regarding the genders.

	Women (N=72)	Men (N=58)	p
	X±SD	X±SD	
<b>Michigan Hand Outcomes Questionnaire</b>			
MHQ total	60.51±9.89	59.78±11.86	0.789
Function of right hand	73.75±21.91	74.40±19.91	0.812
Function of left hand	73.47±22.59	67.93±27.80	0.354
Function of total hand	73.61±20.44	71.16±22.53	0.711
Right hand: Daily living	85.14±18.93	90.09±18.39	0.037*
Left hand: Daily living	80.49±23.14	80.69±29.76	0.402
Both hands: Daily living	78.67±20.02	83.87±21.03	0.065
Work performance	47.64±21.40	47.93±22.15	0.895
Pain	21.60±17.81	13.31±15.48	0.006*
Aesthetics: right	70.31±26.49	74.46±29.53	0.228
Aesthetics: left	73.35±24.91	68.21±32.28	0.589
Satisfaction: right	67.42±23.75	72.41±19.38	0.163
Satisfaction: left	71.93±23.30	69.68±24.46	0.825
<b>Disabilities of the Arm, Shoulder and Hand (DASH)</b>			
Total	23.94±23.15	29.97±21.92	0.050*
Work (Women, n=43; Men, n=40)	30.81±28.20	15.73±20.75	0.016
<b>Pain (Visual analog scale-VAS, cm)</b>			
Shoulder	1.90±2.53	1.74±2.45	0.463
Upper arm	1.24±2.02	1.33±2.14	0.937
Elbow	0.85±1.55	1.21±2.43	0.534
Forearm	0.93±1.73	1.21±2.17	0.714
Wrist	1.36±2.12	1.43±2.46	0.604
Hand	1.06±1.91	1.60±2.55	0.502
Thumb	1.04±1.96	1.07±2.08	0.611
Second finger	0.78±1.57	1.12±2.09	0.513
Third finger	0.61±1.47	1.21±2.26	0.129
Forth finger	0.56±1.47	1.02±1.96	0.069
Fifth finger	0.65±1.55	0.91±1.79	0.256
<b>Neuropathic Pain Questionnaire-Short Form (NPQ-SF)</b>			
Tingling pain	-0.54±0.53	-0.68±0.44	0.164
Numbness	-0.63±0.57	-0.72±0.55	0.395
Increased pain due to touch constant	-0.91±0.40	-1.10±0.28	0.009*
<b>World Health Organization Quality of Life Questionnaire (WHOQoL)</b>			
Physical health	12.36±3.43	13.67±2.70	0.006*
Psychologic	12.38±3.62	13.15±2.87	0.208
Social relationships	12.80±4.17	13.47±3.26	0.556
Environment	13.51±3.75	13.12±2.82	0.344

\*p&lt;0.05.

Table 3 General results regarding the type of diabetes in women (N=72).

	DM Type I (N=34)	DM Type II (N=38)	p
	X±SD	X±SD	
<b>Michigan Hand Outcomes Questionnaire</b>			
Total	62.69±10.18	58.55±9.32	0.112
Function of right hand	76.03±21.13	71.71±22.67	0.491
Function of left hand	77.94±19.58	69.47±24.54	0.193
Function of total hand	76.99±19.58	70.59±20.98	0.190
Right hand: Daily living	88.09±15.33	82.50±21.52	0.293
Left hand: Daily living	85.74±18.67	75.79±25.85	0.108
Both hands: Daily living	81.30±19.08	76.32±20.80	0.335
Work performance	46.62±23.18	48.55±19.93	0.688
Pain	20.15±18.11	22.91±17.67	0.600
Aesthetics: right	72.61±25.33	68.26±27.66	0.614
Aesthetics: left	73.53±24.62	73.19±25.50	0.995
Satisfaction: right	75.49±22.40	60.20±22.84	0.003*
Satisfaction: left	80.51±22.02	64.25±21.93	0.002*
<b>Disabilities of the Arm, Shoulder and Hand (DASH)</b>			
Total	17.99±20.44	29.25±24.37	0.052
Work (DM Type I, n=19; DM Type II, n=24)	30.92±32.17	30.73±25.33	0.812
<b>Pain (Visual analog scale-VAS, cm)</b>			
Shoulder	1.35±1.77	2.39±2.99	0.150
Upper arm	1.15±1.58	1.32±2.36	0.612
Elbow	0.59±1.13	1.08±1.84	0.297
Forearm	0.74±1.50	1.11±1.91	0.243
Wrist	0.88±1.30	1.79±2.59	0.152
Hand	0.85±1.33	1.24±2.31	0.649
Thumb	0.65±1.20	1.39±2.41	0.143
Second finger	0.50±1.19	1.03±1.82	0.061
Third finger	0.59±1.21	0.63±1.68	0.994
Forth finger	0.47±1.19	0.63±1.70	0.508
Fifth finger	0.74±1.42	0.58±1.67	0.555
<b>Neuropathic Pain Questionnaire-Short Form (NPQ-SF)</b>			
Tingling pain	-0.53±0.56	-0.55±0.50	0.959
Numbness	-0.62±0.68	-0.63±0.46	0.816
Increased pain due to touch constant	-0.93±0.41	-0.89±0.40	0.694
<b>Word Health Organization Quality of Life Questionnaire (WHOQoL)</b>			
Physical health	13.39±3.73	11.43±2.88	0.020*
Psychologic	12.73±3.69	12.07±3.59	0.360
Social relationships	13.06±4.37	12.56±4.03	0.517
Environment	13.19±3.71	13.80±3.82	0.312

\*p&lt;0.05.

Table 4 General results regarding the type of diabetes in men (N=58).

	DM Type I (N=20)	DM Type II (N=38)	p
	X±SD	X±SD	
<b>Michigan Hand Outcomes Questionnaire</b>			
Total	59.40±12.73	59.97±11.55	0.800
Function of right hand	77.50±20.81	72.76±19.51	0.414
Function of left hand	73.00±25.77	65.26±28.78	0.353
Function of total hand	75.25±21.90	69.01±22.85	0.303
Right hand: Daily living	89.00±14.38	90.66±20.34	0.068
Left hand: Daily living	81.25±23.89	80.39±32.72	0.273
Both hands: Daily living	82.86±19.31	84.40±22.12	0.552
Work performance	45.25±21.67	49.34±22.55	0.396
Pain	15.03±17.24	12.41±14.62	0.506
Aesthetics: right	65.94±29.97	78.95±28.68	0.103
Aesthetics: left	64.69±32.52	70.07±32.43	0.430
Satisfaction: right	71.25±19.02	73.03±19.80	0.570
Satisfaction: left	74.17±20.40	67.32±26.29	0.461
<b>Disabilities of the Arm, Shoulder and Hand (DASH)</b>			
Total	23.58±21.81	33.33±21.50	0.056
Work (DM Type I, n=14; DM Type II, n=26)	12.95±20.43	17.23±21.16	0.347
<b>Pain (Visual analog scale-VAS, cm)</b>			
Shoulder	1.40±2.23	1.92±2.57	0.777
Upper arm	1.20±1.96	1.39±2.25	0.923
Elbow	1.00±2.15	1.32±2.59	0.873
Forearm	1.00±1.72	1.32±2.39	0.706
Wrist	1.30±2.34	1.50±2.54	0.842
Hand	1.20±2.07	1.82±2.77	0.864
Thumb	1.00±1.56	1.11±2.32	0.347
Second finger	0.70±0.98	1.34±2.46	0.955
Third finger	0.75±0.97	1.45±2.69	0.804
Forth finger	0.75±1.02	1.16±2.31	0.766
Fifth finger	0.70±0.98	1.03±2.10	0.794
<b>Neuropathic Pain Questionnaire-Short Form (NPQ-SF)</b>			
Tingling pain	-0.53±0.46	-0.75±0.42	0.071
Numbness	-0.67±0.48	-0.75±0.58	0.275
Increased pain due to touch constant	-0.97±0.33	-1.17±0.23	0.031*
<b>Word Health Organization Quality of Life Questionnaire (WHOQoL)</b>			
Physical health	12.88±2.21	14.09±2.87	0.074
Psychologic	12.30±2.99	13.60±2.73	0.103
Social relationships	13.13±3.52	13.65±3.15	0.384
Environment	12.18±2.77	13.62±2.75	0.056

\*p&lt;0.05.

how pain is perceived clinically, as women experience more pain than men. In addition, rehabilitation processes for the treatment of pain may vary according to gender. Therefore, we believe that gender-specific research is important for clinical trials to understand the basic mechanisms of pain and to be able to develop personalized pain treatment. In 2022, Ercan et al. investigated the differences in pain in the musculoskeletal system according to gender in a certain occupational group.<sup>23</sup> Although women have more musculoskeletal problems than men, they have similar characteristics in terms of pain. However, in the same study, it was stated that as women's love for their profession increased, their perception of pain also decreased, but upper extremity problems were more common in men.<sup>23</sup> In this study, it was observed that women felt more pain according to the DASH-work score. However, most of the women participating in the study were housewives. Roles at home and satisfaction levels were not evaluated. We believe that there is a need for studies that also evaluate the satisfaction and happiness levels of women from their roles in home life.

Farina et al. evaluated the patients with DM with coronary artery diseases was in terms of gender and reported that women with DM and cardiovascular disease were worse than men.<sup>24</sup> In this study, women were found to be more affected in the physical health subheading of the WHOQoL-BREF, which includes questions, such as sleep quality, activity of daily living, and working capacity. Therefore, we think that the impact of diabetes on women may be worse in terms of physical health as well.

The effects of diabetes type may also differ in men and women. Although the effects of type I and type II diabetes on upper extremity function and pain were similar in men, the effects of type II diabetes were higher than type I diabetes on upper extremity functions and pain in women. Decreased quality of life in type II diabetes may be more affecting women of advancing age.<sup>6</sup> Additionally, studies that include only type I diabetes or only type II diabetes patients may contribute more to the literature.

#### Limitations

Due to the covid-19 pandemic at the time of the study, patients could not be evaluated face to face. Therefore, only patient reporting

measurement methods were used as the measurement method (DASH, Michigan, etc.). Not being able to use more specific hand dexterity tests is also a limitation of the study.

#### Conclusion

Although the focus is mostly on the lower extremity functions and gait and quality of life in diabetes, the upper extremity, which affects the quality of life and functionality, may be affected at different levels by the type of diabetes and the gender of patients with diabetes. Although these patients did not have neuropathic pain, hand and upper extremity functions were affected. Due to the differences in the DASH and MHQ in patient reporting measurement methods, there is a need for studies in which specific manual dexterity tests are performed. There is a need for studies in which specific hand dexterity tests are performed because of the differences between DASH and Michigan measurement methods for patient reporting.

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