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ORIGINAL ARTICLE

Validity and reliability of the Mini-Osteoarthritis Knee and Hip Quality of Life scale in Turkish population

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ABSTRACT

Objectives: This study aims to investigate the validity and reliability of the Turkish version of the Mini-Osteoarthritis Knee and Hip Quality of Life (Mini-OAKHQoL) scale developed to assess the quality of life (QoL) in patients with knee and/or hip osteoarthritis.

Patients and methods: Between May 2018 and May 2020, a total of 83 patients (11 males, 72 females; mean age: 58.1±10.0 years; range, 39 to 81 years) with knee and/or hip osteoarthritis were included. Demographic, clinical, and survey data (Mini-OAKHQoL, Nottingham Health Profile, Short Form-36, Western Ontario and McMaster Universities Osteoarthritis Index, Lequesne Index, and Visual Analog Scale of pain intensity) were recorded. Missing data, floor effect, and ceiling effect were calculated. For reliability analysis, internal consistency and test-retest reliability were discovered. Face, content, convergent, and divergent validities were applied.

Results: Among the patients, 52 (62.65%) had knee osteoarthritis, 26 (31.32%) had hip osteoarthritis, and five (6.02%) had both. Mini-OAKHQoL had a good face and content validity. The average item completion rate was 96.9%, with the time needed to perform was about 4 min. None of the subscales of Mini-OAKHQoL presented floor or ceiling effect, with a good range of responses. The Cronbach alpha coefficients and intraclass correlation coefficient (ICC) analysis of the subscales ranged from 0.927 to 0.676 and 0.987 to 0.843, respectively. Regarding convergent validity, the physical activities, mental health, and pain subscales of Mini-OAKHQoL had moderate to high correlations with the topic-related subset of the other QoL surveys. There were no or weak correlations between Mini-OAKHQoL and non-QoL parameters, indicating its divergent validity.

Conclusion: The Turkish version of Mini-OAKHQoL is a valid, reliable, simple, practical, accurate, completable, comprehensive, and disease-specific self-report instrument to assess QoL in patients with knee and/or hip osteoarthritis.

Keywords: Hip, knee, Mini-Osteoarthritis Knee and Hip Quality of Life, osteoarthritis, reliability, Turkish, validity.

Knee and hip osteoarthritis are common and degenerative diseases characterized by pain, stiffness, and activity-limiting. Patients are not only affected by impairments such as joint pain or limitation of movement but also sleep, work, daily and social activities and, thus, the health-related quality of life (HRQoL).[1] Assessing patients' perceptions by HRQoL instruments can provide a real-life information from variable aspects of disease burden, including patient-centered outcomes, social interaction and support, and psychological well-being.[2] Therefore, the HRQoL scales are essential tools for treatment decisions, particularly for the patients with osteoarthritis, which causes a severe social, health, and economic burden.

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There are some widely-used generic scales designed to measure the quality of life (QoL) over a broad spectrum of diseases.[3-7] However, those generic scales may not be sensitive enough to detect HRQoL specific to a particular illness of interest and carry the risk of being insensitive to changes over time or treatment.[5,8] Since osteoarthritis is a chronic and age-dependent disease, comorbidities are not rare. There may be many confounding factors contributing to the QoL, when the whole body is evaluated with a non-specific HRQoL instrument.[9] Additionally, treatment modalities and approach should be different among the body sites of involvement. Thus, a site- and disease-specific QoL instrument can provide a more reliable approach. Moreover, there is a lack of an evaluation system concerning the social support dimension, which is a crucial component of HRQoL instruments.[2] As a result, a comprehensive, disease-specific, and site-specific instrument may improve the ability to clinically characterize HRQoL in patients with knee and/or hip osteoarthritis. It may provide a high capacity to assess changes of HRQoL over time in these patients.[5]

The 20-item Mini-Osteoarthritis Knee and Hip Quality of Life (Mini-OAKHQoL) scale was derived from the original OAKHQoL questionnaire, which was developed to assess HRQoL in patients with knee and/or hip osteoarthritis. Its good psychometric properties have recently been shown and validation studies have been done in several populations.[10-12] It is a short form and offers decreased patient-refilling time and data-entry time. In this study, we, therefore, aimed to investigate the validity and reliability of the Turkish version of Mini-OAKHQoL in patients with knee and/or hip osteoarthritis.

PATIENTS AND METHODS

This observational study was conducted at Marmara University, Faculty of Medicine, Department of Physical Medicine and Rehabilitation, Division of Rheumatology between May 2018 and May 2020. A total of 83 patients (11 males, 72 females; mean age: 58.1±10.0 years; range, 39 to 81 years) with primary knee and/or hip osteoarthritis were included. Uni- or bilateral and symptomatic patients were included, regardless of sex. Diagnosis was confirmed by physical examination and X-ray imaging, according to the American College of Rheumatology (ACR) criteria.[13,14] Exclusion criteria were as follows: inflammatory disease, cognitive deficit and psychiatric illness, knee or hip surgery within one year, and another disease of the lower limbs. A written informed consent was obtained from each patient. The study protocol was approved by the Marmara University, Faculty of Medicine Ethics Committee (No: 09.2017.493.). The study was conducted in accordance with the principles of the Declaration of Helsinki. The study was registered at ClinicalTrials.gov with the No. NCT04587232.

Patient characteristics, including body mass index (BMI), disease duration, marital status, occupational status, education status, Kellgren-Lawrence radiographic grade, and Visual Analog Scale of pain intensity (VASp) were recorded. All patients were informed by the investigator and given the survey below to fill out on their own.

Self-reported questionnaires

The Mini-OAKHQoL includes 20 items and assesses QoL over the last month in five dimensions: physical activities (7 items: I1-I5, I7, I11), mental health (3 items: I8, I17, I18), pain (3 items: I12, I13, I16), social support (2 items: I19, I20), social functioning (2 items: I14, I15); with three additional independent items addressing sexual life (I10), professional life (I6), and fear of being dependent (I9).[11,12] The numerical rating scales in the items range from 0 (worst) to 10 (best). The scores are obtained by computing the means of the item scores in each subscale. The social support and social functioning subscales are questioned inverse, but scored similarly to the "0 (worst)-10 (best) concept. The last three items' score (independent items) becomes the corresponding score.

The Short Form-36 (SF-36) is one of the most commonly used generic QoL questionnaire and consists of eight subscales, with 36 items. The score ranges 0-100 and the high score indicates good health.[15,16]

The Nottingham Health Profile (NHP) is a general patient-reported outcome measure (PROM) that is used to measure health problems

perceived by the patient. It consists six sections, with 38 statements. Items have the Yes/No-type answers and each item has a specific weighted value. The sum of the items within each section ranges from 0 to 100, and the total score ranges from 0 to 600. The higher score indicates a worse QoL. It has good agreement with the QoL questionnaires such as SF-36.[17,18]

The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) is a self-report, disease-specific, and Likert-type questionnaire assessing the symptomatic severity and disability with pain, stiffness, and physical function domains. Each subscale is summated to a maximum score of 20, 8, and 68, respectively, with the higher scores indicating the worst health status.[19]

The Lequesne Index is a 10-item questionnaire developed for assessing the severity of osteoarthritis. It consists of three sections: pain or discomfort, maximum distance walked, and function or activities of daily living. An overall score is obtained by adding the scores of each item, ranging from 0 to 24. Higher scores indicate a greater severity.[20,21]

Translation process

The original French Mini-OAKHQoL questionnaire was adapted into Turkish using translation, back translation, and cross-cultural adaptation process according to a widely-used guideline.[22] First, we obtained prior permission to validate the Turkish version from the corresponding author of the original Mini-OAKHQoL study. Then, an expert committee was composed of three health professionals, two language professionals, and two patients (they reviewed all the translations through the process). The original French version of the scale was independently translated into Turkish by two translators whose native language was Turkish, had a high level of French speech, and lived in France for a while. Translators were asked to report for each item about any ambiguity detected in the original items and changes made necessary due to usual requirements of adaptation to the Turkish. The patients in the expert committee were asked for each item if they felt it easy to answer and what they understood. After the synthesis phase of the two translations by the committee, it was independently back-translated from Turkish to French by the translators whose native language was French and who had a high level of Turkish language proficiency. Finally, the committee reached a consensus for the pre-final version: All items of the back-translated form were agreed with the original ones. Thus, the Turkish version of Mini-OAKHQoL was prepared for the validation study.

Content and face validities

The pre-final version of the scale was viewed by the authors (three rheumatologists and rehabilitation specialists, including one who had a high level of French language proficiency). Content validity was determined whether the items were relevant to the topic and QoL. Face validity was evaluated via cognitive debriefing interviews with 10 patients to assess whether the Turkish version was readable, understandable, and completable.

Reliability

It was assessed by internal consistency using Cronbach alpha coefficients (α) and test-retest reliability using intraclass correlation coefficients (ICCs).

Twenty-six patients were asked to refill Mini-OAKHQoL after two weeks from the initial assessment for test-retest reliability. For this purpose, they were re-invited to the hospital and not given any treatment up to the second visit.

Item completion and response distribution

Data completion with the rates of item-level missing data was analyzed. A lower rate of missing data than 5% was considered acceptable. Response distribution was analyzed to find out a potential floor or ceiling effect. The frequency distributions of individual items were examined, and more than 15% of respondents having the lowest and highest possible response considered floor and ceiling effect, respectively.

Construct validity

Convergent and divergent validity were analyzed to determine the construct properties of the scale. Convergent validity was approved to show the convergence between the Mini-OAKHQoL and other HRQoL instruments by correlating each other (NHP and SF-36). For

divergent validity, Mini-OAKHQoL's capability to differentiate or discriminate between constructs that are theoretically different (such as age, BMI, and disease duration) were analyzed.

Statistical analysis

The minimum sample size required was calculated as 82 to achieve a correlation coefficient of at least 0.35 (moderate correlation border) for convergent validity. The sample size was also calculated for the test-retest analysis and 17 patients were required to achieve an ICC of at least 0.70 with a statistical significance for an alpha-value set at 0.05 and the power of at least 90%.[23]

Statistical analysis was performed using the IBM SPSS version 20.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed in mean ± standard deviation (SD), median (interquartile range [IQR]), or number and frequency. The frequency distributions of the items of Mini-OAKHQoL were examined. Cronbach alpha coefficients were calculated and an alpha value of >0.70 was considered adequate. The ICCs were calculated and a value of >0.75 was considered good. Spearman correlation coefficient was used to assess convergent and divergent validity: correlation coefficient rho: >0.60 was considered strong, rho: 0.35-0.60 moderate,

Table 1. Sociodemographic and clinical characteristics of patients

	%	Mean±SD	Median	IQR
Disease duration (month)			36	14-72
Body mass index (kg/m^2)			30.57	27.48-34.05
Smoker rate	10.8			
Educational status				
Below primary school	18.1			
Primary school	42.2			
Middle school	12			
High school	21.7			
University	6			
Occupational status				
Employed	9.6			
Unemployed or retired	90.4			
Marital status				
Married	80.7			
Pain intensity (VAS, range 0-100)			50	30-80
Lequesne index		8.2±3.0		
WOMAC Osteoarthritis Index				
Pain			9	7-12
Stiffness			3	2-5
Physical function			35	20-42
NHP total			260	145-372
Physical mobility			41.86	30.66-54.47
Pain			59.05	36-89.51
Sleep			34.94	0-77.63
Emotional reactions			21.17	7.22-53.41
Social isolation			0	0-42.14
Energy level			76	36.8-100
Short Form-36				
Physical functioning			40	20-60
Physical role strength			0	0-50
Emotional role strength			33.3	0-66.7
Vitality			50	30-65
Emotional well-being			60	48-72
Social functioning			50	30.5-75
Pain			45	22.5-57.5
General health perception			40	30-55

SD: Standard deviation; IQR: Interquartile range; VAS: Visual Analog Scale; WOMAC: The Western Ontario and McMaster Universities Osteoarthritis Index; NHP: Nottingham Health Profile.

and rho: <0.35 weak. A *p* value of <0.05 was considered statistically significant.

RESULTS

The main site of the symptomatic osteoarthritis was the knee in 52 (62.65%), hip in 26 (31.32%), and both in five (6.02%) patients. The bilaterality ratio was 54.2%. Among 57 patients with knee osteoarthritis, 12 had Kellgren-Lawrence Grade I, 20 had Grade II, 21 had Grade III, and four had Grade IV disease. Among 31 patients with hip osteoarthritis, four had Grade I, 13 had Grade II, nine had Grade III, and five had Grade IV. Baseline demographic and clinical characteristics of the patients are shown in Table 1.

We viewed the pre-final Turkish version of Mini-OAKHQoL and considered that the scale had a good content validity. They interviewed 10 patients to learn about what the patient's thought was meant by each item. The patients confirmed that all items were readable and understandable. They confirmed that the scale was completable. Therefore, no further cultural adaptations were needed. Thus, face and

Table 2. Item-based and subscale-based missing data, floor effect, and ceiling effect of the Turkish version of Mini-OAKHQoL

	Missing data (n)	Floor effect (%)	Ceiling effect (%)
Items			
I1. Walking	0	4.8	10.8
I2. Bending or straightening	0	14.5	10.8
I3. Climbing stairs	0	14.5	2.4
I4. Dressing	0	3.6	**36.1**
I5. Getting in and out a car	0	8.4	**21.7**
I6. Hindered in professional activity	36	3.6	7.2
I7. Take longer doing things	0	7.2	**16.9**
I8. Feel depressed because of pain	0	8.4	**18.1**
I9. Been afraid of being dependent on others	0	14.5	**26.5**
I10. Restricted sex life	16	4.8	**31.3**
I11. Staying for a long time in the same position	0	8.4	**20.5**
I12. Frequency of pain	0	12	6
I13. Intensity of pain	0	12	6
I14. Able to plan for the future	0	**15.7**	7.2
I15. Going out whenever would like	0	**21.7**	12
I16. Wake up at night because of pain	0	9.6	**26.5**
I17. Wonder what is going to happen	0	7.2	**27.7**
I18. Feel aggressive and irritable	0	1.2	**38.6**
I19. Feel others understand arthritis problems	0	**19.3**	3.6
I20. Feel support from people close to me	0	12	**20.5**
Subscales			
Physical activities	0	1.2	2.4
Mental health	0	1.2	12
Pain	0	8.4	2.4
Social support	0	7.2	6
Social functioning	0	6	8.4

Floor effect: Percentage of the lowest modality; Ceiling effect: Percentage of the highest modality; Floor or ceiling effect data are shown in bold.

Table 3. Median scores, Cronbach alpha coefficients (α), and ICC for the Turkish version of the Mini-OAKHQoL subscales

	Median*	IQR*	Median†	IQR†	Alpha	ICC	95% CI
Physical activities	55.71	35.71-74.28	54.28	27.85-78.57	0.927	0.986	0.969-0.994
Mental health	70	43.33-86.67	65	40-86.66	0.780	0.987	0.971-0.994
Pain	46.66	26.66-73.33	43.33	19.65-64.99	0.882	0.978	0.952-0.990
Social support	55	20-70	50	10-66.25	0.755	0.843	0.655-0.929
Social functioning	50	25-70	47.5	23.75-70	0.676	0.962	0.915-0.983

ICC: Intraclass correlation coefficients; Mini-OAKHQoL: Mini-Osteoarthritis Knee and Hip Quality of Life; IQR: Interquartile range, CI: Confidence interval; * Baseline results of the patients (n=83); † Post-two-weeks patient results for test-retest reliability (n=26)

content validities of the scale were found to be appropriate and the original meaning of the items remained unaltered (Appendix).

The average time needed to perform the test was about 4 min. Two independent items had more than 5% of missing responses addressing sexual life and professional activity, with the rates of 43.3% and 19.2%, respectively. Others did not have any missing data. On average, the item completion rate was 96.9%. None of the subscales presented floor or ceiling effect, with a good range of responses (Table 2).

The internal consistency reliability was adequate for the physical activity, mental health, pain, and

Table 4. Correlations of the subscales of Mini-OAKHQoL with the other QoL tools and non-QoL parameters†

	Physical activities	Mental health	Pain	Social support	Social function
NHP Physical mobility	-0.71**	-0.50**	-0.60**	NC	-0.28*
NHP Pain	-0.68**	-0.67**	-0.69**	NC	-0.23*
NHP Sleep	-0.64**	-0.53**	-0.61**	NC	NC
NHP Emotional reactions	-0.53**	-0.72**	-0.49**	NC	NC
NHP Social isolation	-0.50**	-0.60**	-0.41**	NC	NC
NHP Energy level	-0.56**	-0.60**	-0.49**	NC	NC
NHP Total	-0.74**	-0.74**	-0.68**	NC	NC
SF-36 Physical functioning	0.61**	0.39**	0.59**	NC	0.30*
SF-36 Physical role limitations	0.53**	0.45**	0.43**	NC	NC
SF-36 Emotional role limitations	0.49**	0.42**	0.34*	NC	NC
SF-36 Vitality	0.51**	0.62**	0.44**	NC	NC
SF-36 Emotional well-being	0.22*	0.45**	0.24*	NC	0.22*
SF-36 Social functioning	0.54**	0.52**	0.48**	NC	NC
SF-36 Pain	0.66**	0.63**	0.63**	NC	NC
SF-36 General health	0.47**	0.46**	0.47**	NC	0.31*
WOMAC Function	-0.71**	-0.55**	-0.62**	NC	NC
WOMAC Pain	-0.61**	-0.46**	-0.59**	NC	NC
WOMAC Stiffness	-0.52**	-0.44**	-0.42**	NC	NC
VAS-Pain	-0.50**	-0.38**	-0.55**	NC	-0.24*
Lequesne	-0.66**	-0.53**	-0.57**	NC	NC
Age	NC	NC	NC	NC	NC
Disease duration	NC	NC	NC	NC	NC
Number of comorbidities	NC	NC	NC	NC	NC

Mini-OAKHQoL: Mini-Osteoarthritis Knee and Hip Quality of Life; QoL: Quality of life; NHP: Nottingham Health Profile; NC: No significant correlation; SF-36: 36-Item Short Form Survey; WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index; VAS: Visual Analog Scale; † Only the Spearman correlation coefficients are given at p<0.05; * p: 0.0001-0.049; **p<0.0001.

social support dimensions, but was slightly <0.7 for the social functioning dimension. Test-retest reliability was excellent for all subscales (Table 3).

The correlation coefficients of the subscales of the Mini-OAKHQoL with the other parameters for convergent and divergent validity are presented in Table 4.

DISCUSSION

The Mini-OAKHQoL is a multi-dimensional scale representing the overall impact of knee and hip osteoarthritis and treatment on QoL. It is important, as osteoarthritis may cause a more disproportional burden from concomitant diseases. Individuals with a musculoskeletal disease suffer from more health problems than those without.[9] On the other hand, the International Classification of Functioning, Disability, and Health's (ICF) osteoarthritis core set involves many dimensions such as emotional functions, sleep functions, sensation of pain, intimate relationships, remunerative employment, community life, recreation and leisure, immediate family, and individual attitudes of immediate family members, as well as the restriction in physical activities.[24] The major advantage of OAKHQoL is that it covers a significant number of ICF categories and captures specific aspects for patients with knee and/or hip osteoarthritis. This may be interpreted as the universality and comprehensiveness of the instrument.[25]

In addition to a significant number of dimensions of the ICF core set met,[24,25] the current study shows that content validity of Turkish version of Mini-OAKHQoL is satisfactory. The absence of any adverse comments from respondents suggests that the scale is acceptable in terms of face validity. A useful HRQoL questionnaire should evaluate the scope in rich content and express dimensions well; simultaneously, needs to have homogeneity. The Mini-OAKHQoL's richness and dimensionality were already proven structurally by factor analysis.[10,11] Confirmatory factor analysis confirmed the five-factor model in Spanish patients with knee or hip osteoarthritis. In the current study, various slight floor and ceiling effects were found to be on the item-based investigation; however, floor and ceiling effects were not detected on the subscale-basis. While the homogeneity skewness of the responses in the items varies, homogeneity of the subscale supports the concordance and complementarity of the dimensions.

The current study demonstrates that Mini-OAKHQoL is feasible, with the low missing data rate and time-saving assessment. In the validation studies, high missing data rates are undesirable results that may generate sample size problems. It is controversial whether the length of the questionnaire influences the response rate or not, but the short ones seem to be advantageous.[26,27] In addition, the time it took to fill them was short. It has already been known that shorter versions of questionnaires may decrease the time to perform. The average time required to complete the original OAKHQoL was found to be 10 to 15 min;[9] on the other hand, it was about 4 min to complete the Turkish version of Mini-OAKHQoL. Similarly, calculating scorings was shortened (about 2 min for Mini-OAKHQoL). These are important findings for the acceptance of the measurement instrument in clinical trials and patient care usage.

The Mini-OAKHQoL has an adequate internal reliability, indicating that the items of the subscales had an excellent correlation. It demonstrated excellent test-test reliability, indicating very low random measurement error for scale. As a similar reliability analysis has been demonstrated in various populations, we can conclude that the instrument is reliable and reproducible.[10,11]

The physical activities, mental health, and pain subscales had moderate to good correlations with the topic-related subsets of SF-36 and NHP, suggesting a good convergent validity. However, social functioning and social support subscales did not show similar performances. The strongest explanation, to the best of our knowledge, is that Mini-OAKHQoL includes a more comprehensive social questioning than the others. It assesses both social function and social support. Indeed, the social domains of other HRQoL scales are usually based on only social isolation.[15,17,28] Another reason may be explained by the United States Food and Drug Administration Guidance for the use of PROMs which underlines that when the results using single general questions

do not correlate with those using a multi-item questionnaire, this may be evidence that the questionnaire is not capturing all the essential domains of the concept contained in the claim.[29] The social domain of SF-36 may be an example of this theory. On the other hand, the social domains of Mini-OAKHQoL involve items indicating "getting out of the house", "planning long-term projects", and "social support". These differences regarding the contents and structure of the QoL tools explain why perfect correlations could not be found between the Mini-OAKHQoL and the others, particularly in social-related domains. However, the results should not be interpreted as inadequate validity of the scale, but it may set out the comprehensiveness and advantages of Mini-OAKHQoL. Additionally, the Spanish validation study and the original French development study support these differences concerning the convergent validity of the social functioning and social support subscales.[10,11]

The subscales of Mini-OAKHQoL did not correlate with some non-QoL parameters such as age, disease duration, or the number of comorbidities, and showed no moderate correlation with pain and WOMAC, supporting discriminative validity.

The main limitation of this study is that the investigators were unable to evaluate the sensitivity to change analysis. The fact that osteoarthritis can be treated with a personalized approach rather than a standard approach made it difficult during the study.[30]

In conclusion, the Turkish version of Mini-OAKHQoL has strong reliability and good validity. It is a short, practical, completable, and useful instrument to assess the QoL in patients with knee and/or hip osteoarthritis. Although it has a comprehensive content, it is quick to calculate scorings. It can be used for the Turkish population with knee and/or hip osteoarthritis to assess the impact of the disease on QoL from the patient's perspective.

Declaration of conflicting interests

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Appendix

Alt Ekstremite Osteoartriti Yaşam Kalitesi (MiniOAKHQoL-TR)

Aşağıdaki açıklamaları dikkatlice okuduğunuz için teşekkür ederiz:

Aşağıdaki cümleler, **dizinizde ve/veya kalçanızda** bulunan osteoartritin yaşam kalitenize getirdiği değişikliklerle ilgilidir. Bu bilgiler, sizin günlük hayatta osteoartritle nasıl yaşadığınızı bizim daha iyi anlamamızı sağlayacaktır.

* Sorulan cümlelerde durumunuzu en iyi gösteren kutucuğu aşağıdaki seçenekler arasında işaretleyiniz:

"hiç değil" "tamamiyle"
"hiç değil" "çok aşırı derecede"
"hiçbir zaman" "her zaman", ...

İyi ya da kötü cevap yoktur.
***** Her cümle için tek bir kutucuk işaretleyiniz**

Örnek:	**Hiç değil**										**Çok aşırı derecede**
Merdiven çıkmakta zorluk çekiyorum.	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10

Tarih: __ __ ____

Aşağıdaki cümlelerin her birini, **SON 4 HAFTALIK DÖNEMDEKİ** yaşam kalitenizi düşünerek dikkatlice okuyunuz.
Osteoartritinizden dolayı yaşadıklarınıza en uygun kutucuğu işaretleyiniz:

	Hiç değil										**Çok aşırı derecede**
1- Yürümekte zorluk çekiyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
2- Eğilmekte ve doğrulmakta zorluk çekiyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
3- Merdiven çıkmakta zorluk çekiyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
4- Giyinmekte zorluk çekiyorum (Çorap, ayakkabı, tayt/külotlu çorap ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
5- Arabaya binmekte veya arabadan inmekte zorluk çekiyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
6- Meslek hayatımdaki çalışmalarda zorluk çekiyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
7- İşleri yapmak daha uzun zamanımı alıyor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
8- Ağrılar yüzünden moralim bozuk	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
9- Başkalarına bağımlı olmaktan korkuyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
10- Cinsel aktivitelerimde kısıtlıyım	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
	Hiçbir zaman										**Sürekli**
11- Uzun süre aynı pozisyonda durmakta zorluk çekiyorum (Oturarak, ayakta, kımıldamadan ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
12- Ağrılarım var (sıklık derecesi)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
	Hiç yok										**Dayanılmaz**
13- Ağrılarım var (şiddet derecesi)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
	Hiç değil										**Her zaman**
14- İleriye dönük, uzun vadeli planlar yapabilirim	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
15- İstediğim kadar evden dışarı çıkıyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
	Hiçbir zaman										**Her zaman**
16- Ağrılarım yüzünden gece uyanıyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
17- Gelecekte kendime ne olacağını soruyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
18- Sinirli, saldırganım	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
	Hiç değil										**Tamamiyle**
19- Osteoartrite bağlı olarak yaşadığım zorluklarla ilgili, başkalarının beni anladığını düşünüyorum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10
20- Yakınlarım tarafından desteklendiğimi hissediyorum (eş, aile, ...)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	0	1	2	3	4	5	6	7	8	9	10

Lütfen 20 sorunun her biri için tek 1 seçenek işaretlediğinizi kontrol ediniz
Bu formu cevapladığınız için teşekkür ederiz