Kakovost življenja bolnikov z artrozo kolkov ali/in kolen

Impact of hip and/or knee osteoarthrosis on quality of life

Avtor / Author

Ustanova / Institute

Andrej Kravos[1], Marta Jerman[1]

[1] Univerza v Mariboru, Medicinska fakulteta, Katedra za družinsko medicino, Maribor, Slovenija

[1] University of Maribor, Faculty of Medicine, Department of Family Medicine, Maribor, Slovenia

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Naslov za dopisovanje / Correspondence
Andrej Kravos
Dobrna 34A, 3204 Dobrna
Telefon +386 37134327
E–pošta kravos.andrej@siol.net

Izvleček

Namen: *Osteoartroza je kronična degenerativna bolezen sklepov, ki močno vpliva na življenje obolelih. Je najpogostejša sklepna bolezen, njena prevalenca s starostjo narašča. Za srčno–žilnimi obolenji je drugi najpogostejši vzrok invalidnosti v razvitem svetu.*

V zadnjih desetletjih so se začeli razvijati vprašalniki za ugotavljanje z zdravjem povezane kakovosti življenja, ki je pomembno merilo izida zdravljenja kroničnih bolezni, pa tudi napovedni dejavnik mortalitete. COOP vprašalnik je veljaven in zanesljiv vprašalnik, obenem pa tudi enostaven in uporaben v družinski medicini.

Metode: *V presečni raziskavi smo ugotavljali vpliv artroze kolk-ov (-a) in/ali kolen (-a) na kakovost življenja. Izvedli smo jo na naključnem vzorcu opredeljenih bolnikov v ambulanti družinske medicine z rentgensko doka-*

Abstract

Purpose: *Osteoarthritis is a chronic degenerative joint disease which has a significant impact on those with osteoarthritis. Osteoarthritis is the most common joint disease, and the prevalence increases with age. After cardiovascular diseases, osteoarthritis is the second most common cause of disability in developed countries.*

During the last few decades, questionnaires for health–related quality of life have been developed, which are important indicators of the outcomes of treatment of chronic diseases and are also predictors of mortality rates. The COOP/WONCA chart is a valid and reliable questionnaire which is easy to use and useful in family medicine practice.

Methods: *The cross–sectional study evaluated the effect of hip and/or knee osteoarthritis on the quality of*

zano boleznijo. Zbrali smo podatke o bolnikovi starosti, spolu, delu in službi, pridruženih boleznih, pogostnosti in tipu telesne vadbe, o zdravljenju in samozdravljenju osteoartroze. Vsak bolnik je izpolnil COOP vprašalnik. Analizirali smo različne vidike kakovosti življenja in njihovo povezanost z opazovanimi dejavniki pri posameznih bolnikih.

Rezultati: *Vprašalnik je vrnilo 131 od 155 povabljenih bolnikov. 72% je bilo žensk. Osteoartroza kolena je pogostejša kot osteoartroza kolka. Moški imajo bolj redno fizično dejavnost kot ženske (p = 0.049). Ženske se poslužujejo zdravljenja osteoartroze pogosteje kot moški (p = 0.038). 43,5% bolnikov ima srednjo kvaliteto življenja (ocena 3), kar 46,6% slabo (ocena 4 in 5) in le 1,5% dobro (ocena 1 in 2). Največ težav so bolniki navedli pri fizični zmogljivosti in pri splošnem zdravstvenem stanju. Kakovost življenja je bila slabša pri ženskah, pri obolelih v višjih starostnih skupinah, pri tistih, ki se nič ne gibajo, pri tistih z artrozo več skupin sklepov in pri tistih s pridruženimi obolenji, razen srčno–žilnega.*

Zaključek: *Bolniki z artrozo kolk-ov (-a) in/ali kolen (-a) imajo slabo kakovost življenja. Največ težav imajo s fizično zmogljivostjo, najmanj pa z družabno aktivnostjo.*

life. The patients included in our random sample were registered in GP surgery with radiologically confirmed disease. Data were collected on patient age and gender, work or job, associated diseases, frequency and type of exercise, and treatment and self–treatment of osteoarthritis. Each patient completed the COOP questionnaire. We analyzed different aspects of quality of life and the associations with patient characteristics.

Results: *One hundred fifty–five patients were enrolled and 131.patients returned the questionnaire. Patients had osteoarthritis involving the knee more often than osteoarthritis of the hip. Men underwent regular physical activity more often than women (p = 0.049). Women treated osteoarthritis more often than men (p = 0.038). Of the 155 patients, 43.5% had a moderate quality of life (score = 3), 46.6% had a poor quality of life (score = 4 and 5), and only 1.5% had a good quality of life (score = 1 and 2). Patients reported difficulty with physical fitness and overall health. The quality of life was worse in women, patients in the higher age groups, patients with limited or no physical activity, patients with involvement of more joints, and in patients with co–morbidities (except co–existing cardiovascular disease).*

Conclusion: *Patients with osteoarthritis of the hip and/or knee have a poor quality of life; specifically, such patients have the greatest difficulty in engaging in physical activity and less social activity.*

INTRODUCTION

Osteoarthritis

Osteoarthritis is a degenerative joint disease that affects one or more synovial joints of the limbs and/or spine. Osteoarthritis is the most common joint disease worldwide. The prevalence of osteoarthritis is < 0.2% between the ages of 25 and 34 years and > 80% for those > 55 years of age. Women are slightly more likely to develop osteoarthritis, except for hip osteoarthritis, which seems to be slightly more common in men. Osteoarthritis is widespread throughout the world and is the second leading cause of disability in developed countries after cardiovascular disease. Lower limb osteoarthritis in the elderly has a significant impact on the quality of life compared with the healthy population. This impact does not depend on the rate or severity of X–ray changes (1). The number of illnesses is inversely proportional to the results of health–related quality of life (HRQOL; 1–3).

Treatment for osteoarthritis consists of general measures and patient education, including weight reduction, regular exercise, gymnastics, and during exacerbations, rest, compresses, and analgesics. The intra–

articular application of corticosteroids is appropriate for patients with signs of synovitis despite treatment with NSAIDs or for patients in whom NSAIDs are contraindicated. Surgical treatment is an option if other treatments fail. In advanced cases in which the daily work is affected, ambulation is not possible, or pain occurs at rest, a joint endoprosthesis is inserted. Treatment goals for osteoarthritis are to control pain and inflammation to improve the QOL, to reduce disease progression and disability, and to educate the patient (1).

Treatment and quality of life

According to the World Health Organization, health is a state of complete physical, mental, and social well–being, and not merely absence of disease (WHO, 1948). As indicators of health variables, prenatal mortality, life expectancy, symptoms, mental, physical, and emotional status, cognitive functioning, and perception of current and future health are generally considered. Traditional indicators of health, such as morbidity and mortality, do not always reveal other aspects of individual or national health, including restrictions and disabilities due to illness, injury, or other health problems.

In the 1980s the search began for new criteria for health indicators to supplement the traditional measurements of morbidity and mortality. Health status appears to be a multidimensional construct (4). A modified definition of health includes QOL. The health of the population should be viewed not only in terms of preservation of life, but also in terms of improving life. Although biochemical measurements and data on morbidity indicate the need for treatment, such measurements and data do not always correlate with how people feel (5, 6). The QOL refers to well–being and satisfaction with life as a whole. Although health is an important aspect of the overall QOL, there are many other areas to consider, such as employment, housing, school, neighborhood, culture, values, and spirituality.

The HRQOL, which has evolved since 1980, covers aspects of general welfare which is associated with health, whether physical or mental (7). At the individual level, HRQOL involves physical and mental health and the connection between the two, including risk factors, functional status, social support, and socioeconomic status.

HRQOL assessment

HRQOL criteria are used to determine physical and mental health over time (8). It has become an increasingly important component of research on health and is considered a valid indicator of the necessary actions and outcomes of interventions. Self–perceived health has proved to be a stronger predictor of mortality and morbidity than various physiologic criteria (9).

In recent years several questionnaires about QOL associated with patient health status have been developed (10–14). The questionnaires can be used in everyday clinical practice and in research. The questionnaires can yield information about patient functioning and on success of interventions. The COOP/WONCA questionnaire is one of the most proven questionnaires. Many authors have expressed the need for an optimal questionnaire for use in general practice (15–19). Indeed, the COOP/WONCA questionnaire can satisfy this need (20). The original Dartmouth COOP Functional Assessment Charts were developed by Gene Nelson of Dartmouth Medical School in collaboration with 200 general practitioners (The Dartmouth Primary Care Cooperative Information Project) and published in 1987. The questionnaire was developed and perfected over decades to become a brief, practical, and valid method of assessing the functional status of adults and adolescents (21). In 1988, the World Organisation of National Colleges, Academies and Academic Associations of General Practitioners / Family Physicians Classification Committee (WONCA) reviewed the questionnaire and recommended it for widespread use in 1989.

The Dartmouth COOP system has nine charts which measure physical ability, emotions and emotional status, functioning in everyday life, social life, general status, change in health, social support and availability of help, pain, and overall assessment of QOL. The new version of the questionnaire (COOP / WONCA) has six items, as follows: physical fitness; feelings; daily activities; social activities; change in health; and overall health, with pain as an additional option. The

questionnaire is clinically acceptable and yields information about physical and mental well–being, and functional capacity. The COOP/WONCA is easy to understand and takes only 3–5 minutes to complete (21). The questionnaire is not affected by age, gender, ethnicity, religion, or the cultural characteristics of patients. Each question consists of a title, issue that relates to the situation in the last 2–4 weeks, and 5 possible answers (22, 23). Each answer has an illustration that makes the question more understandable, but does not influence the answer (24, 25). The questionnaire was tested for reliability, validity, and acceptability in Slovenia (26).

There are many studies that prove the validity and reliability of COOP charts. Kinnersley tested the COOP chart in patients with and after acute disease (27). Jenkinson used this questionnaire to assess the HRQOL of patients after classic and laparoscopic surgery (28). Bentsen proved the validity of the COOP chart for patients with asthma (29).

A number of studies have reported a worse HRQOL for patients with osteoarthritis of the hip or knee measured with different instruments (30–32). COOP charts have also been used as an instrument for assessing the HRQOL of such patients (33–34).We did not find many such studies on the internet. There is also a lack of research on the quality of life of patients with hip and/or knee osteoarthritis in Slovenia.

Aims

The purpose of this study was to determine the QOL of patients with degenerative changes in the knee and/or hip, and to present the impact of additional factors, such as gender, age, exercise, therapy, and co–morbidity on the QOL.

MATERIAL AND METHODS

Sampling

The current study was a cross–sectional observational study. The population for the survey represented patients in one family medicine practice at the Health Centre Kamnik that were diagnosed with hip and/or knee osteoarthritis in the last 10 years. The list included 1924 patients, of whom 735 had a diagnosis of osteoarthritis. The inclusion criterion was X–ray–verified osteoarthritis of the hip or knee. Sampling was conducted randomly from all medical records until 155 patients were enrolled. The frequency of ambulatory visits did not influence the selection.

Data were collected on patient age and gender, work or job, associated diseases (cardiovascular, pulmonary, cancer, mental illness, other skeletal diseases, and other diseases), frequency and type of exercise, and treatment and self–treatment of osteoarthritis. Patients completed a questionnaire with nine COOP charts on QOL. Questions were asked to determine how much difficulty they had in the last 2 weeks.

Each chart has 5 possible responses, with a score of 1–5, as follows: 1 is the best, excellent grade (excellent condition, no problems, and no pain); 2 is a good rating (good condition, little problems, and little pain); 3 is the median, a good estimate (medium condition, medium difficulty, and medium pain); 4 is a bad grade (poor condition with much difficulty and a lot of pain); and 5 is the worst condition (worst situation, many problems, and a lot of pain).

The total score is the sum of all nine questions. The total sum was divided into five new classes, as follows:1 (0–9 points) is the best; 2 (10–18 points) is very good; 3 (19–27 points) is the mean; 4 (28–36 points) is poor; and 5 (37–45 points) is very poor.

We sent an invitation to each of the 155 patients selected in June 2006 to participate in the survey via surface mail. The patients were asked to complete the questionnaire and COOP charts. We included an envelope for the reply, an explanation of the research, and a form for voluntary participation in the survey. Gathering completed questionnaires took place until September 2006.

Statistics

Numeric variables are shown with average values, standard deviation, and minimum and maximum values. Descriptive variables are shown with the number and percentage. For analysis of the differences, a Student's t–test or $\chi 2$ test for descriptive variables was used. Statistically significant differences were considered at a $p < 0.05$.

RESULTS

Sociodemographic characteristics of patients

Of 155 patients, 131 returned completed questionnaires. The response rate was 84.5 %. Eleven of the returned questionnaires were not completed. There were 95 (72.5 %) women and 36 (27.5 %) men. The average age was 72.3 (SD 12.62) years (women, 72.5 years; men, 72.1 years). One hundred fifteen patients (87.7 %) were > 60 years of age and 88 patients (67.5 %) were > 70 years of age. Compared with men, there were more women > 80 years of age (33 [35.3 %] vs. 8 [21.8 %], chi–square test [p = 0.17]).

Osteoarthritis of the hip was more common in men and osteoarthritis of the knee was more common in women (Table 1). The difference in the anatomic localization of osteoarthritis between men and women was not statistically significant (chi–square test, p = 0.842).

The majority of patients were retired (122 [93.2 %]); only 9 patients (6.8 %) were employed and > 50% of employed patients were engaged in physical work. Sixty (48.9 %) of the retired patients had jobs which were not physically demanding (women, 53.7 %; men, 36.1 %). Men did heavy physical work after retirement more often than women (Table 2); the difference was not statistically significant (chi–square test, p = 0.12). Older patients were less often engaged in heavy physical work (Table 3); the difference was statistically significant (chi–square test, p < 0.001).

Co–morbidities, exercise and treatment

Thirty–seven (28.2 %) of the surveyed patients had skeletal disease alone (Table 4). Twenty–seven (20.6 %) of the patients had two or more associated diseases. There were no differences between men and women.

The physical activity of patients is shown in Figure 1; 11 (10 %) of the respondents did not answer the question regarding physical activity. Twenty–three (69 %) of men and 40 (46 %) of women were engaged in regular physical activity; the difference between men and women was statistically significant in favor of men (p = 0.049).

Table 1. *Location of osteoarthritis in men and women*

Location	Men Number (percentage)	Women Number (percentage)	All Number (percentage)
Hip	14 (38 %)	30 (32 %)	44 (34 %)
Knee	15 (41 %)	44 (46 %)	59 (45 %)
Hip and knee	7 (21 %)	21 (22 %)	28 (21 %)
All	36 (100 %)	95 (100 %)	131 (100 %)

Table 2. *Type of work in employed and retired patients with osteoarthritis of the hip and/or knee*

Type of work	Men Number (percentage)	Women Number (percentage)	All Number (percentage)
Employed: sedentary work	0 (0 %)	4 (4 %)	4 (3 %)
Employed: physical work	3 (8 %)	2 (2 %)	5 (4 %)
Retired: easy physical work	13 (36 %)	51 (54 0 %)	64 (49 %)
Retired: heavy physical work	14 (39 %)	27 (27 %)	41 (31 %)
Retired: no work	6 (16.7 %)	11 (11 %)	17 (13 %)
All	36 (100 %)	95 (100 %)	131 (100 %)

Table 3. *Type of work which patients with osteoarthritis of the hip and / or knee can do in different age groups*

Age (years)	Heavy work Number (percentage)	Easy work Number (percentage)	No work Number (percentage)	All Number (percentage)
30 – 69	27 (59 %)	16 (23 %)	1 (6 %)	44 (34 %)
70–79	17 (37 %)	25 (37 %)	4 (23 %)	46 (35 %)
80–99	2 (4 %)	27 (40 %)	12 (71 %)	41 (31 %)
All	46 (100 %)	68 (100 %)	17 (100 %)	131 (100 %)

Table 4. *Associated diseases in patients with osteoarthritis of the hip and/or knee (N = 131)*

Associated diseases	Men Number (percentage)	Women Number (percentage)	All Number (percentage)
No disease	6 (17 %)	31 (24 %)	37 (28 %)
Mental	2 (6 %)	5 (5 %)	7 (5 %)
Cancer	3 (8 %)	5 (5 %)	8 (6 %)
Pulmonary	5 (14 %)	7 (7 %)	12 (9 %)
Cardiovascular	21 (58 %)	54 (57 %)	75 573 %)
Other	6 (17 %)	12 (13 %)	18 (14 %)

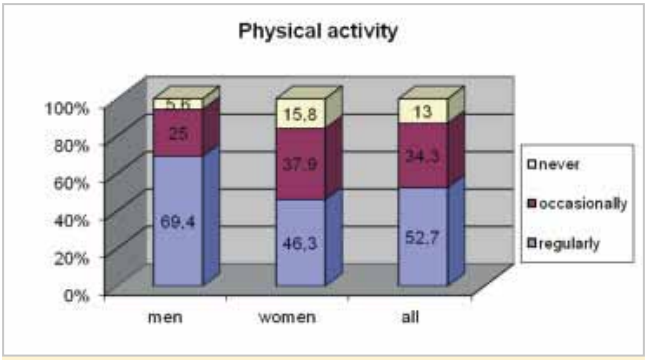

Figure 1. *Physical activity in patients with osteoarthritis of the hip and/or knee (N = 120).*

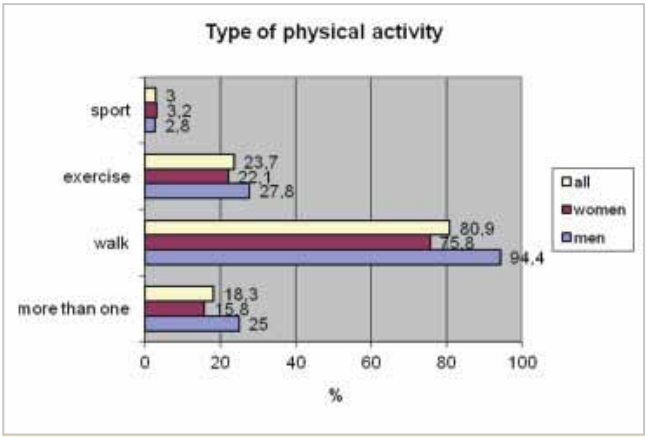

Figure 2. *Type of physical activity in patients with osteoarthritis of the hip and/or knee (N = 120).*

The most common physical activity was walking. Thirty–three (94 %) men and 66 (76 %) women walk as part of their physical activity program (Figure 2). Past treatment of osteoarthritis is shown in Figure 3. Twenty–eight (24 %) of the respondents had no treatment for degenerative osteoarthritis of the hip/knee. Among the patients, there were more men (12 [36 %]) than women (16 [19 %]). Between men and women, there was a statistically significant difference (p = 0.038); men were more likely to fail treatment.

Forty–seven (39 %) of the patients were treated with tablets (as monotherapy or in combination with ointments, physical therapy, or other methods; (45.3% of women vs. 22.2% of men). Fifteen of the patients (12 %) surveyed (13.7% of women and 8.3% of men) took only tablets. The gender difference was not statistically significant.

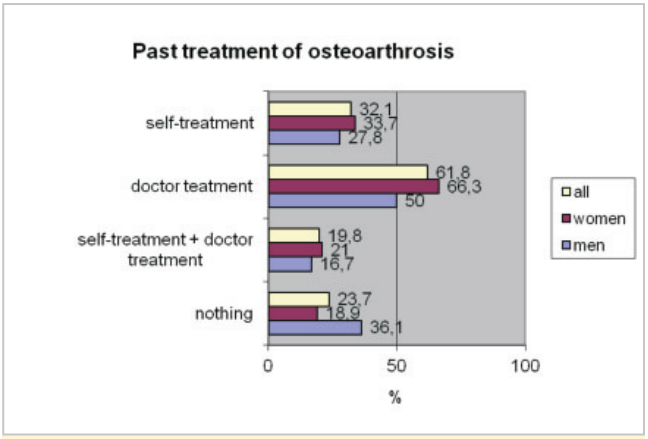

Figure 3. *The past treatment for patients with osteoarthritis of the hip and/or knee (N=120).*

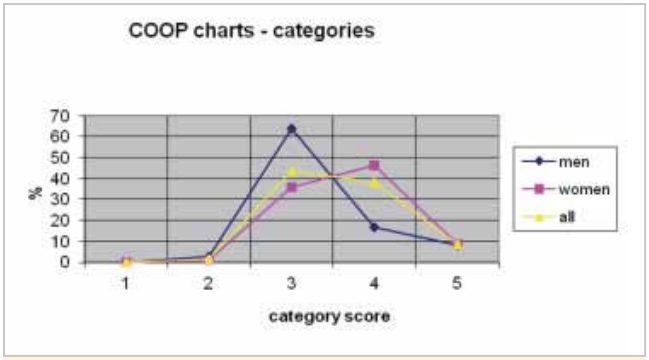

Figure 4. *QOL in men and women presented in five categories regarding the sum of all individual scores – total score (N = 120).*

QOL

Patients completed a questionnaire with 9 different aspects of the QOL (Table 5).

Patients had the greatest problems in physical fitness and general health, but less in emotional status, social life, and social support (Table 5). Differences between men and women were statistically significant for physical fitness, emotional status, and overall health. Women had more problems than men in all cases.

Table 5. *Differences between men and women regarding nine aspects of QOL on the COOP questionnaire in patients with osteoarthritis of the hip and / or knee (N = 131).*

COOP charts	Gender	Scale score: number (percentage) of patients 1 = no problems, 5 = very big problems						Average (SD)	P value *
		1	2	3	4	5	All		
Physical fitness	Men	2 (6)	1 (3)	9 (25)	20 (56)	4 (11)	36 (100)	3,64 (0,93)	0,003
	Women	1 (1)	2 (2)	7 (7)	47 (50)	38 (40)	95 (100)	4,25 (0,77)	
Emotional status	Men	11 (31)	8 (22)	8 (22)	5 (14)	3 (8)	35 (97)	2,46 (1,31)	0,030
	Women	9 (10)	33 (35)	28 (30)	14 (15)	6 (7)	90 (95)	2,72 (1,06)	
Daily activities	Men	5 (14)	8 (22)	13 (36)	6 (17)	4 (11)	36 (100)	2,89 (1,19)	0,84
	Women	10 (11)	16 (17)	36 (38)	22 (23)	11 (12)	95 (100)	3,08 (1,14)	
Health change	Men	1 (3)	3 (8)	26 (72)	4 (11)	2 (6)	36 (100)	3,08 (0,73)	0,99
	Women	2 (2)	10 (11)	66 (70)	12 (13)	5 (5)	95 (100)	3,08 (0,72)	
Social activities	Men	17 (47)	7 (19)	5 (14)	6 (17)	0 (0)	35 (97)	2,00 (1,16)	0,19
	Women	31 (33)	26 (27)	22 (23)	10 (11)	5 (5)	94 (99)	2,28 (1,19)	
Overall health	Men	0 (0)	0 (0)	27 (75)	6 (17)	3 (8)	36 (100)	3,33 (0,63)	0,031
	Women	0 (0)	1 (1)	46 (49)	41 (43)	7 (7)	95 (100)	3,57 (0,65)	
Social support	Men	11 (31)	1 (3)	8 (22)	0 (0)	14 (39)	34 (94)	3,15 (1,74)	0,053
	Women	29 (31)	13 (14)	19 (20)	10 (11)	22 (24)	93 (98)	2,82 (1,56)	
Pain	Men	2 (6)	9 (25)	14 (39)	10 (28)	1 (3)	36 (100)	2,97 (0,94)	0,44
	Women	4 (4)	16 (17)	34 (36)	29 (31)	12 (13)	95 (100)	3,31 (1,03)	
QOL	Men	0 (0)	14 (39)	17 (47)	3 (8)	2 (6)	36 (100)	2,81 (0,82)	0,26
	Women	1 (1)	23 (24)	52 (55)	17 (18)	2 (2)	95 (100)	2,96 (0,74)	
Total score	Men	0 (0)	1 (3)	23 (64)	6 (17)	3 (8)	33 (92)	3,33 (0,69)	0,01
	Women	0 (0)	1 (1)	34 (36)	44 (46)	8 (8)	86 (91)	3,67 (0,66)	

**chi–square test*

Table 6. *Most frequent score and average total score (in brackets) on the COOP questionnaire presented by gender and age.*

Gender / Age in years	30–49	50–59	60–69	70–79	80–89	> 90
Men	3 (20,0)	4 (29,0)	3 (22,9)	3 (24,8)	4(30,4)	4 (30,0)
Women	4 (29,0)	3 (25,5)	3 (25,2)	4 (28,5)	4 (28,5)	3 (27,0)
All	3 (27,7)	3(27,0)	3 (24,5)	3 (27,2)	4 (28,5)	4(28,5)

In the overall assessment of the COOP questionnaire, the total score was taken into account. Most responses had a median score of 3 (57 [44 %]) and slightly lower responses with a rating score of 4 (50 [38 %]). The results show the difference between women, who responded mostly with a score of 4 (46 %), and men who respond at a higher rate with a score of 3 (64 %). No patients had 0–9 points (perfect score 1, the best quality of life). Eleven patients (9%) had a score of 5 (worst quality of life; Figure 4). There was a statistically significant difference between men and women in the sum score (chi–square test; p = 0.01).

Higher age was associated with a worse QOL (Spearman's correlation coefficient = 051, p <0,001). In the age group > 80 years of age, the overall sum score was 28.5; in the age group < 79 years of age, the overall sum score was 27.2 and in the 60–69 year age group, the overall sum score was 24.5 (Table 6).

Patients with no physical activities had a worse QOL. The presence of other diseases, with the exception of cardiovascular diseases, was associated with a worse QOL. Patients with osteoarthritis in more than one joint also had a worse QOL, but there was no statistically significant difference.

DISCUSSION

Summary of main findings

One hundred fifty–five questionnaires were sent and 131 were returned. The response rate was 84.5%. The high percentage of responses was attributed to good cooperation amongst the patients.

Patients had osteoarthritis of the knee more often than osteoarthritis of the hip. Men were engaged in regular physical activity more often than women, and women treated osteoarthritis more often than men. Most patients had a bad or moderate QOL. Patients reported more difficulty with physical fitness and overall health, and less with emotions, social support and social activities. The differences between men and women were statistically significant for physical fitness, emotional status, and overall health. Women had more problems than men in all cases. The QOL was worse in older patients.

Context of the findings

Osteoarthritis of the hip or knee has an important impact on the HRQOL, most often on physical functioning (30–34). Due to the pain and limitation of movement, the disease strongly affects the patient. In the advanced stage, osteoarthritis can lead to disability. The grade of X–ray changes does not affect the severity of the disease (35). Compared with the healthy population, hip or knee osteoarthritis in the elderly has a significant impact on QOL (35). Women have higher scores, which indicates a lower functional status. There were statistically significant differences between men and women in their answers on physical fitness, emotional status, and overall health. In contrast to these findings, Nose–Čerkez evaluated the usefulness of the COOP questionnaire in family practices and found women to have lower functional status in all COOP charts (26).

Patients > 80 years of age had a poor QOL. The average score of men > 80 years of age and women > 70 years of age was 4, indicating many problems. Nose–Čerkez found that older people have worse ratings in seven of the nine elements related to functional status (26).

Men in the 50–59 year age group and women in the 30–49 year age group also had a poor QOL (score 4). We consider this to be the active population, which has many limitations due to arthritis in the work place, life activities, and possibly even in sport activities.

Patients with degenerative changes of both hips and

knees have indicated a poorer QOL than patients with isolated osteoarthritis of only one joint, which is consistent with findings in other studies (36). Patients with hip or knee osteoarthritis, but without associated morbidity indicated a medium QOL. Patients with another disease (pulmonary, cancer, mental, and other diseases) with exception of cardiovascular disease had a worse QOL. Patients with cardiovascular diseases had a medium QOL (score 3). Despite the findings that the number of illnesses correlates with a worse QOL (37, 38) the current study did not show that patients with multiple diseases had a worse QOL. Conservative treatment improves health status and HRQOL during exacerbations (35, 39); we did not confirm this in the current study.

Strengths and limitations of the study

The response rate was good. Selection bias was minimized. In contrast, the population was small and limited to one family medicine practice. There were many more women than men, thus the comparison between these two groups was difficult. Numeric variables were not normally distributed, which limited the statistical analyses.

CONCLUSIONS

Osteoarthritis has a high prevalence and significant impact on the QOL, most often on physical functioning. Patients were worried most about the pain and limitations in mobility, which physicians often treat only marginally. Patients also have ambivalent attitudes towards medication treatment. Women should exercise more and men should use treatment more often. Physicians should be more active in a patient–centered approach with an emphasis on pain relief, disability prevention, and a healthy lifestyle.

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