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Original Article

Measurement of health-related quality of life and functional capacity in patients with chronic tophaceous gout

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ABSTRACT

Introduction: In gout there are few instruments validated for the evaluation of activity, functional capacity, or quality of life. It is not known if generic instruments such as the MOS-20, or specific for other illnesses, such as the AIMS, can be applied to patients with gout.
Objective: To evaluate the clinimetric characteristic of the MOS-20 and AIMS questionnaires, and their correlation with HAQ-DI, as well as with clinical variables in patients with tophaceous gout (TG).
Methods: Fortyy-nine patients with TG were included. Demographic and clinical variables were obtained. The 3 questionnaires were applied at the basal evaluation. A second evaluation was applied to 20 patients, 8 weeks later.
Results: All patients were male. The time of since onset of the illness was 14.9 (8.3) years. The HAQ-DI was 0.43 (0.56) with an alpha of Cronbach (αC) of 0.95 and the intraclass correlation coefficient (ICC) was 0.86. The MOS-20 had an αC of 0.68 to 1.0 and a ICC of 0.27 to 0.61 between the several components. The AIMS had an αC of 0.66 to 0.96, and a ICC of 0.11 to 0.79 between the several components. Reliability was better between the physical components in MOS-20 and AIMS. The MOS-20, AIMS and the HAQ-DI correlated with the presence of joints with functional limitation. There weren't any significant differences among the patients with inflamed joints, nor in those with tophi. The HAQ-DI was best correlated with the physical component than with the mental component of the AIMS and the MOS-20.
Conclusion: The AIMS, the MOS-20 and the HAQ-DI are useful in measuring the functional capacity and the quality of life in patients with TG.

Medición de la calidad de vida asociada a la salud y a la capacidad funcional en pacientes con gota crónica tofácea

Palabras clave:
Gota crónica tofácea
Calidad de vida relacionada con la salud
Capacidad funcional

RESUMEN

Introducción: Hay pocos instrumentos en el estudio de gota validados para evaluar la actividad, la capacidad funcional o la calidad de vida de los pacientes. Se desconoce si los instrumentos genéricos como el cuestionario MOS-20 (Medical Outcomes Study Short Form Health Survey "Resultados médicos del formulario corto del estudio de la encuesta de salud") o los instrumentos específicos para otras enfermedades, como el cuestionario AIMS (Arthritis Impact Measurement Scales "Escala de medición del impacto de la artritis") puedan aplicarse a pacientes con gota.
Objetivo: Evaluar las características clinimétricas de los cuestionarios MOS-20 y AIMS y su correlación con el cuestionario HAQ-DI (Health Assessment Questionnaire 'Cuestionario de evaluación de salud') así como con variables clínicas en los pacientes con gota crónica tofácea (GCT).
Pacientes y métodos: Se incluyeron 49 pacientes con GCT. Se obtuvieron las variables demográficas y clínicas. Se aplicaron los 3 cuestionarios en la valoración basal. En 20 pacientes se realizó una segunda evaluación después de 8 semanas.

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Resultados: Todos los pacientes fueron de sexo masculino. El tiempo de evolución de la enfermedad fue de 14.9 (8.3) años. El HAQ-DI fue de 0.43 (0.56) con un alfa de Cronbach (αC) de0 .95 y un coeficiente de correlación intraclase (CCI) de 0.86. El MOS-20 tuvo un αC de 0.68 a 1.0 y un CCI de 0.27 a 0.61 entre las diferentes dimensiones. El AIMS tuvo un αC de 0.66 a 0.96 y un CCI de 0.11 a 0.79 entre los diferentes componentes. La reproducibilidad fue mejor en los componentes físicos que en los componentes de salud mental tanto del MOS-20 como del AIMS. Los cuestionarios MOS-20, AIMS y HAQ-DI correlacionaron con la presencia de articulaciones con limitación funcional. No se encontraron diferencias significativas entre los pacientes con articulaciones in amadas ni con tofos. El HAQ-DI se correlacionó mejor con las variables del componente físico que con las del componente mental de los cuestionarios AIMS y MOS-20.
Conclusión: Los cuestionarios AIMS, MOS-20 y HAQ-DI son útiles para valorar la capacidad funcional y la calidad de vida en los pacientes con GCT.

Introduction

Gout is one of the most common causes of arthritis in men over 40. The disease is characterized by the appearance of elevated plasma concentrations of uric acid and by the presence of joint inflammation, commonly monoarticular and recurrent, which are usually intense and self-limited.

Patients with chronic tophaceous gout (CTG) have subcutaneous and intradermal monosodic urate crystal deposits, called tophi.[1–3] In a previous study, up to 62% of patients with gout who came to the rheumatology clinic for the first time presented tophi. In patients with CTG it is frequent to find functional limitation, due to the baseline disease as well as associated comorbidity. The quality of life and functional capacity have been little studied in these patients. With the exception of the GAQ (Gout Assessment Questionnaire) there are no specific instruments for evaluating gout and therefore, generic instruments such as the HAQ-DI (Health Assessment Questionnaire) and the SF 36 (36 item Short Form questionnaire) have been employed.[4–9] It is unknown if other instruments such as the AIMS (Arthritis Impact Measurement Scales) or the MOS-20 (Medical Outcomes Study Short Form Health Survey), are useful in the measurement of the quality of life related to health in patients with CTG.

The objective of this study was to evaluate the usefulness of the AIMS and MOS-20 questionnaires in the evaluation of the quality of life of patients with CTG and the correlation of these instruments with the HAQ-DI, grip strength (GS), walking time (WT) and clinical variables.

Patients and methods

Forty-nine patients with CTG were studied. All of them complied with the American College of Rheumatology classification criteria for gout.[17] Demographic and clinical variables were obtained (number of swollen [SJ] and tender joints [TJ]; number and localization of tophi; visual analog scales [VAS] for the evaluation of pain and the global health perception measured by the patients from 0 to 100 mm, and it was considered that a higher score indicates more pain and, therefore, a poorer health status). The presence of comorbidities as referred by the patients was recorded. TJ were considered when pain was elicited upon palpation and movement; SJ were considered when, in addition to pain, arthritis was present, characterized by an increased volume, temperature and a synovial effusion. Joints with functional limitation were those with a limited active or passive range of motion, due to either pain, inflammation, or sequelae (ankylosis, tophi, etc).

Measurement of GS was performed by requesting that the patient grip the cuff from a sphigmomanometer which had been previously inflated to 20 mm Hg; the maximal reading was recorded after 3 tries with each hand. An average was calculated for the GS of both hands. It was used to evaluate upper extremity affection.

WT was expressed in minutes (a semiquantitative functional measurement, accepted for the evaluation of lower extremity performance). Time in which the patient walked a 15 m level and obstacle free distance was taken and, if necessary, walking auxilliaries were taken into account (for example canes, crutches, walker, etc) and was used to evaluate the affection of the lower extremities.[18,19]

The social status was calculated using the method proposed by Bronfman et al to measure the socioeconomic characteristics is Spain,[20] which takes into account the schooling of the head of the family, the characteristics of the patients home and the number of persons that live in it. It has a score from 0 to 12 in which, the lower the score, the lower the social status becomes.

AIMS is a self applied questionnaire specific for rheumatic diseases. It is composed by 44 entries grouped in 9 categories. Responses are chose off a Likert scale that goes from “never” to “always” and which is scored from 0 to 7 according to the positive or negative direction of the question. Each category is calculated into an average with the number of questions answered and transformed into a decimal base. The higher the score, the worse the quality of life.[10]

MOS-20 is a variant of the SF36 health questionnaire. It is a self-applied questionnaire with 20 questions grouped into 6 dimensions (physical function, functional role, social function, mental health, and perception of health and pain). Responses are chosen from a Likert scale. The score for each category is obtained with the average of the questions answered. Values are adjusted on the basis of the questions’ sense so that the higher scores indicate a better quality of life and are linearly transformed into a 0 to 100 interval.[11,12]

HAQ-DI is a generic instrument that measures the functional capacity during the past week. It is a self-applied questionnaire composed by 20 questions, synthesized in 8 categories. Responses are scored on an ordinal scale from 0 to 3. The global score is the mean of all of the scores. It is considered that a higher score corresponds to a greater loss of functional capacity.[13–16] This questionnaire has been recently validated after application to a group of patients with gout and has shown to be useful in the measurement of their functional capacity.[8]

AIMS, MOS-20, and HAQ-DI were applied at baseline. To determine their sensitivity to change, a second evaluation of the same parameters was performed in 20 patients after 8 weeks. Questionnaires were self applied before the medical evaluation by the rheumatologist although a trained surveyor was always available to help patients who had difficulty filling out the form. There was no selection criteria for the 20 patients who underwent a second evaluation and were those that came to the next visit.

Statistical analysis

Means and standard deviation were used to calculate the measurements of central tendency and dispersion in the case of

the dimensional variables, and frequencies were used for the case of the nominal and ordinal variables. Homogeneity was determined with Cronbach's alpha, in which values over 0.7 were considered significant and stability was measured with the interclass correlation coefficient (ICC) in patients with 2 evaluations (test and retest) as a measure of reproducibility. Correlations between the WT, GS, and the clinical variables was done. To determine the sensitivity to change the difference between both measurements was calculated, in other words, the percentage of change ([X2−X1/X1]100), considering as significant those values over 20% and the correlation between both ,measurements by the Pearson correlation coefficient.

Results

Forty-nine patients with CTG were studied, all of them male, with a mean age of 53 (12) years and a mean schooling of 5.5 (3.3) years. The mean social status was 7.02 (2.1). Forty-four patients (90%) referred at least one co-morbidity, the most frequent being alcoholism in 35 patients (71%), smoking in 23 patients (47%), arterial hypertension in 11 patients (22%), nephrolitiasis in 9 patients (18%), diabetes mellitus in 2 patients (4%), and liver disease in 1 patient (2%). There were no significant differences in the quality of life or the functional capacity in relation to the presence or absence of comorbidities nor in the relationship with schooling, social status or age in this group of patients. The mean time since onset of disease was 14.9 (8.3) years. Thirty patients had TJ (61.2%), 21 patients had joints with functional limitation (JFL) in the range of motion (42.9%), and 6 patients had SJ (12.2%). The mean of PJ was 3 (range, 0-56) and the median SJ was 1 (range, 0-3). The main TJ and JFL were the knees, ankles, elbows, and wrists. Tophi were localized mainly on the elbows, wrists, metacarpophalangeal joints, proximal interphalangeal joints, knees, ankles, and the first metatarsophalangeal joint. All of the patients presented tophiu at the time of the study; 6 (12.2%) were intradermic in localization. The median of the number of tophi was 4 (range, 1-32).

VAS for pain and global health in patients was 24.2 (25) mm and 50.9 (30) mm, respectively. The mean GS for both hands was 159 (62) mm Hg. GS was significantly reduced in patients with JFL of both hands (P=.000) (Table 1). In patients with pain of the upper extremities (n=16) significant differences in GS were found when comparing patients without pain. On the right hand, GS was 128.06 (78.89) mm Hg for patients with pain versus 174.33 (56.95) mm Hg for patients without pain (P=.023); on the left hand it was 131.44 (65.73) mm Hg for patients with pain versus 171.30 (56) mm Hg for patients without pain (P=.032). GS was correlated with the presence of JFL (r=−0.6; P=.000) and VAS for pain (r=−0.328; P=.022). Correlation between the GS of both hands was 0.83 (P=.000).

The mean WT for 15 m was 0.14 (0.05) min. WT was higher in patients with TJ (0.16 [0.65] min) than in patients without joint pain (0.12 [0.02] min) (P=.022). There was also a significant difference of the WT between patients with and without JFL (0.17 [0.07] min vs 0.13 [0.03] min, respectively; P=.004) (Table 2). Patients with pain in the lower extremities (n=21) had a higher WT than patients without pain: 0.17 (0.07) min versus 0.12 (0.02) min (P=.001). WT was only correlated with the presence of TJ (r=0.3; P=.042). There were no significant differences between patients with joint pain and joint swelling.

The results of each instrument related to functional capacity and quality of life are shown below.

Arthritis impact measurement index

The most affected categories were pain, social activity, physical activity, and movement (Table 2). In patients with TJ, movement, social development, daily activities, and pain had significantly higher scores than those without pain. In patients with JFL, the categories of physical activity, dexterity, social development, and pain had significantly higher scores (Table 2).

Medical results of the short form study of the health survey

The most affected categories were pain and the perception of health (Table 2). In patients with TJ, the categories of pain and social function has significantly lower scores when compared to patients without pain. In patients with JFL, the functional role, the social function and pain had significantly lower scores (Table 2).

Table 1
Differences between the measurements of patients with and without joint functional limitation

Variable	With JFL (n=21), mean (SD)	Without JFL (n=28), mean (DE)	*P*
WT, min	0.17 (0.07)	0.13 (0.033)	.004
GS right hand, mm Hg	112.52 (58.07)	194.25 (51.86)	.000
GS left hand, mm Hg	123.81 (53.96)	184.14 (54.55)	.000
HAQ-DI	0.74 (0.61)	0.18 (0.37)	.000
AIMS			
Movement	5.14 (2.25)	3.70 (1.12)	.005
Physical activity	5.41 (1.64)	3.74 (1.84)	.002
Dexterity	3.51 (1.96)	2.08 (1.16)	.003
Social development	3.64 (1.85)	1.99 (0.93)	.000
Social activity	6.38 (1.66)	5.35 (2.01)	.072
Daily activities	3.05 (2.35)	2.40 (2.10)	.33
Pain	6.62 (1.66)	5.46 (1.91)	.039
Depression	3.88 (2.19)	3.85 (2.11)	.96
Anxiety	4.36 (1.55)	4.19 (1.68)	.73
MOS-20			
Physical function	56.08 (39.80)	76.79 (32.10)	.052
Functional role	37.50 (40.96)	65.18 (39.87)	.023
Social role	48.00 (40.73)	81.43 (23.05)	.001
Mental health	66.00 (24.02)	73.43 (19.54)	.24
Health perception	29.65 (17.05)	37.59 (15.65)	.11
Pain	23.75 (28.65)	47.22 (35.58)	.019

Abbreviations: AIMS, arthritis impact measurement scale; GS, grip strength; HAQ-DI, health evaluation questionnaire; JFL, joint with functional limitation; MOS-20, medical results of the short form of the health survey; SD, standard deviation; WT, walking time.

Table 2
Internal consistency of the questionnaires in 49 patients with chronic tophaceous gout

Instrument	Mean (SD)	Range	Cronbach's alpha
AIMS			
Movement	4.30 (1.81)	1.43–9.29	0.67
Physical activity	4.44 (1.93)	1.43–8.29	0.66
Dexterity	2.68 (1.68)	1.43–8.0	0.83
Social development	2.67 (1.60)	1.43–7.34	0.76
Social activity	5.76 (1.92)	1.43–10	0.75
Daily activities	2.66 (2.20)	1.43–10	0.96
Pain	5.94 (1.88)	2.14–10	0.77
Depression	3.86 (2.12)	1.43–9.04	0.91
Anxiety	4.26 (1.62)	1.43–7.14	0.73
MOS-20			
Physical function	68.16 (36.59)	0–100	0.96
Functional role	53.65 (42.21)	0–100	0.97
Social function	67.50 (35.40)	0–100	1.0
Mental health	70.33 (21.59)	24–100	0.68
Health perception	34.26 (16.55)	5–65	0.81
Pain	37.23 (34.53)	0–100	1.0
HAQ-DI	0.43 (0.56)	0–2	0.95

Abbreviations: AIMS, arthritis impact measurement scale; HAQ-DI, health assessment questionnaire; MOS-20, medical results of the short form study of the health survey; SD, standard deviation.

Health assessment questionnaire

This instrument was used to validate the convergence of the other 2 questionnaires. The mean scores of the HAQ-DI were under one in all of the categories, with the most affected being getting up, hygiene, activities and grasping, and holding. The mean score of the HAQ-DI was 0.43 (0.56) (95% confidence interval [CI], range 0.27-0.60) (Table 2). In patients with JFL, HAQ-DI was 0.74 (0.61). In patients without JFL, HAQ-DI was 0.18 (0.37) (P=.000) (Table 2).

Correlation of the questionnaires

HAQ-DI correlated with the GS of both hands (r=−0.6; P=.000 in both), JFL (r=0.6; P=.000) and the VAS for pain (r=0.6; P=.000). In addition, it correlated with the AIMS category of movement (r=0.6; P=.000), physical activity (r=0.4; P=.006), dexterity (r=0.4; P=.011), social development (r=0.5; P=.000), social activity (r=0.4; P=.010), daily activities (r=0.4; P=.006), and pain (r=0.4; P=.020), but not with depression (r=0.3; P=0,072) or anxiety (r=0.1; P=.45). It correlated with the MOS-20 in the physical function dimensions (r=−0.5; P=.000), functional role (r=−0.5; P=.001), social function (r=−0.5; P=.001), health perception (r=−0.3; P=.021) and pain (r=−0.3; P=.035), but did not correlate with mental health (r=−0.1; P=.38) (Table 4).

Sensitivity to change

A second measurement with the instruments was obtained in only 20 patients who came to a second evaluation 8 weeks after the baseline visit. There were no significant differences in the demographic or clinical variables between the patients who came to the second visit when compared to those who did not attend. There were no differences between the baseline measurement or the final measurement in the total group, because most of the patients were in an intercritical stage. Comparing the first measurement to the second one, there were percentages of change over 20% in the dexterity, social development, daily activities, pain, and depression items of the AIMS and in the physical function, social function, health perception (global health), and pain items of the MOS-20. Both the test and the retest showed better ICC scores in movement, physical activity and dexterity components of the AIMS and in the physical function, functional role, and pain items of the MOS-20. Only significant correlations between the first and second evaluation of the movement and dexterity components of the AIMS were found, together with mental health on the MOS-20 and the HAQ-DI (Tables 3 and 4).

Discussion

In the present study we applied the AIMS and MOS-20 questionnaires to patients with gout; the questionnaires demonstrated a good reproducibility as well as moderate sensitivity to change for the measurement of functional capacity and quality of life.

The AIMS had a reproducibility (Cronbach α .66-.96 between the different components), similar to what is reported for patients with rheumatoid arthritis (RA) (0.71-0.93). The most affected categories were pain (5.94 [1.88]), social activity (5.76 [1.92]) (it is possible that the presence of tophi causes this phenomenon), physical activity (4.44 [1.93]) and movement (4.30 [1.81]). On the other hand, the least affected categories were daily activities (2.66 [2.20]), social development (2.67 [1.60]) and dexterity (2.68 [1.68]). Most of the scores were similar to those reported in patients with RA,[10] with the exception of dexterity, depression, and anxiety which are more affected in patients with RA, while social activity is more affected in patients with gout.

A divergent correlation was found, from moderate to good, among the movement, physical activity and dexterity of the AIMS, with the physical function and the functional role component of the MOS-20. Mental health and social function of the MOS-20 correlated with situations of depression and anxiety reflected in AIMS. Categories regarding pain in both instruments had a significant correlations. Movement, physical activities, dexterity, social development, and pain scores were significantly higher in patients with JFL. All of the measurements of MOS-20 were found reduced in this group of patients, and the most affected were health perception (34.26 [16.55]) and pain (37.23 [34.53]), and the least affected were mental health (70.33 [21.59]). The same tendency was observed when performing the quality of life measurement with SF-36, in which there is a larger affection of the physical component than the mental component.[9] The functional role, the physical function, and pain were significantly lower in patients with JFL. The presence of upper extremity affection reduced the GS, while the affection of the lower extremities reduced the WT.

HAQ-DI had a significant correlation with pain VAS, the WT, GS, the presence of JFL, and domains related with the physical function more than the mental health of the AIMS and MOS-20. This is in agreement with what has been reported previously, in other words, there is a better correlation of the HAQ-DI with the components of the physical function as well as a low correlation with the mental health components of the SF-36 questionnaire.[8] Because this study only included patients with CTG and that most of the patients were in an intercritical phase, no significant differences were found in relation to the presence of tophi and SJ as has been seen in other studies that have included patients with a wider spectrum of the disease.[5–8] In a study with 375 patients with gout, of which 62% had tophi it was shown that in patients with 5 or more tophi, the HAQ-DI score was significantly higher when compared to those with less than 5 tophi (0.38 [0.84] vs 0.04 [0.15]; P=.000).[5] Álvarez-Hernández et al found a similar tendency in a multicentric study that included 206 patients, of which 37% had tophi. In patients with tophi, the HAQ-DI was 1.01 (0.84), while in patients without tophi was 0.35 (0.56) (P=.000).[8] Álvarez-Nemegyei also reported the presence of tophi as a risk factor for the presence of musculoskeletal functional limitation (MSFL) with a relative risk of 4.3 (95% CI, range from 1.2-15.1). In addition, there is also a significant difference in the HAQ-DI score among the patients with MSFL compared to those patients without MSFL (0.17

Table 3
Test, retest, and percentage of change in 20 patients with chronic tophaceous gout

Instrument	Baseline visit, mean (SD)	Final visit, mean (SD)	Percentage of change, %	Pearson correlation coefficient, *r*	ICC (95% CI)
HAQ-DI	0.61 (0.63)	0.65 (0.77)	16.0	0.78 (0.000)	0.86 (0.65–0.95)
AIMS					
Movement	4.6 (1.9)	5.2 (3.1)	16.7	0.63 (0.004)	0.70 (0.25–0.88)
Physical activity	4.7 (1.6)	4.0 (3.0)	4.6	0.30 (NS)	0.66 (0.34–0.72)
Dexterity	3.0 (1.9)	3.2 (2.7)	27.7	0.45 (0.045)	0.60 (−0.02 to 0.84)
Social development	3.2 (1.8)	3.8 (3.4)	64.9	0.068 (NS)	0.11 (−1.25 to 0.65)
Social activity	5.7 (2.1)	4.9 (3.0)	−0.29	0.34 (NS)	0.48 (−0.36 to 0.80)
Daily activity	2.9 (2.7)	6.0 (2.0) [a]	209.6	0.27 (NS)	0.41 (−0.54 to 0.77)
Pain	6.3 (2.1)	2.9 (2.3) [a]	−51.1	0.20 (NS)	0.33 (−0.73 to 0.74)
Depression	4.0 (2.2)	5.5 (2.3) [b]	67.27	0.23 (NS)	0.38 (−0.62 to 0.76)
Anxiety	4.4 (1.3)	3.5 (2.4)	−4.5	0.13 (NS)	0.25 (−0.33 to 0.53)
MOS-20					
Physical function	61.2 (36.5)	74.8 (32.6)	31.5	0.33 (NS)	0.49 (−0.28 to 0.80)
Functional role	51.3 (40.1)	65.0 (40.1)	10.7	0.44 (NS)	0.61 (0.01–0.85)
Social function	58.0 (37.2)	75.0 (38.0)	31.12	0.22 (NS)	0.37 (−0.61 to 0.75)
Mental health	74.4 (19.3)	65.0 (40.1)	−2.7	0.30 (0.04)	0.27 (−0.85 to 0.71)
Health perception	32.0 (16.7)	57.0 (32.6) [a]	149.3	0.23 (NS)	0.30 (−0.78 to 0.72)
Pain	28.8 (29.6)	64.0 (34.1) [a]	89.4	0.48 (0.01)	0.65 (0.10–0.80)

Abbreviations: AIMS, arthritis impact measurement scale; CI, confidence interval; HAQ-DI, health evaluation questionnaire; ICC, interclass correlation coefficient; MOS-20, medical results of the short form study of the health survey; NS, not ignificant; SD, standard deviation.

[a] $P<.001$.

[b] $P<0.05$.

Table 1
Correlation matrix of the components of the 3 questionnaires

	Mov	FA	Dex	SD	SA	DA	Pain	Dep	Anx	PF	FR	SF	MH	HP	Pain	HAQ-DI
AIMS																
Mov	1															
FA	0.4	1														
	0.00															
Dex	0.3	0.3	1													
	0.03	0.04														
SD	0.5	0.5	0.5	1												
	0.00	0.00	0.00													
SA	0.2	0.4	0.1	0.3	1											
	0.13	0.01	0.32	0.04												
DA	0.5	0.1	0.2	0.2	0.1	1										
	0.00	0.49	0.18	0.26	0.57											
Pain	0.5	0.3	0.2	0.4	0.06	0.5	1									
	0.00	0.04	0.18	0.00	0.69	0.00										
Dep	0.4	0.2	0.04	0.1	−0.1	0.7	0.5	1								
	0.00	0.15	0.79	0.47	0.83	0.00	0.00									
Anx	0.4	0.3	0.3	0.1	0.02	0.4	0.3	0.6	1							
	0.01	0.08	0.06	0.37	0.91	0.01	0.04	0.00								
MOS-20																
PF	−0.5	−0.4	−0.3	−0.5	−0.1	−0.4	−0.3	−0.3	−0.2	1						
	0.00	0.00	0.06	0.00	0.39	0.00	0.03	0.03	0.15							
FR	−0.5	−0.5	−0.2	−0.5	−0.3	−0.4	−0.4	−0.3	−0.1	0.6	1					
	0.00	0.00	0.13	0.00	0.08	0.01	0.01	0.04	0.70	0.00						
SF	−0.7	−0.1	−0.4	−0.6	−0.3	−0.3	−0.5	−0.4	−0.1	0.6	0.5	1				
	0.00	0.73	0.01	0.00	0.07	0.02	0.00	0.01	0.46	0.00	0.00					
MH	−0.3	−0.4	−0.3	−0.1	−0.2	−0.4	−0.3	−0.6	−0.7	0.2	0.1	0.3	1			
	0.02	0.02	0.07	0.75	0.20	0.01	0.04	0.00	0.00	0.09	0.28	0.04				
HP	−0.4	−0.2	−0.0	−0.1	−0.2	−0.2	−0.1	−0.1	−0.3	0.3	0.2	0.2	0.2	1		
	0.01	0.25	0.86	0.47	0.14	0.15	0.33	0.66	0.04	0.03	0.25	0.20	0.12			
Pain	−0.4	−0.3	−0.3	−0.2	−0.2	−0.1	−0.5	−0.3	−0.3	0.2	0.4	0.4	0.3	0.3	1	
	0.01	0.07	0.02	0.13	0.20	0.34	0.00	0.04	0.08	0.24	0.01	0.02	0.02	0.06		
HAQ-DI	0.6	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.1	−0.5	−0.5	−0.5	−0.1	−0.3	−0.3	1
	0.00	0.01	0.01	0.00	0.01	0.00	0.02	0.07	0.45	0.00	0.00	0.00	0.38	0.02	0.04	

All expressed by the Pearson correlation coefficient (first line) and *P* (second line).

Abbreviations: AIMS, arthritis impact measurment scale; Anx, anxiety; DA, daily activities; Dep, depression; Dex, dexterity; FR, functional role; HP, health perception; HAQ-DI, health assessment questionnaire; MH, mental health; MOS-20, medical results of the short form study of the health survey; Mov, movement; PA, physical activity; PF, physical function; SA, social activity; SD, social development; SF, social function.

[0.21] vs 0.02 [0.0004]; *P*=.000).[7] This is a similar situation to what is found in this study between patients with and without JFL (0.74 [0.61] vs 0.18 [0.37]; *P*=.000).

Sensitivity to change was better in the components of physical function of AIMS and MOS-20, but was poor regarding the mental health components.

One of the main limitations of the study was that only patients with CTG in an intercritical state were included. Due to this restriction it was not possible to perform comparisons with patients who had an acute attack or in patients without the presence of tophi, which would allow for a wider spectrum and verify if these instruments have significant differences between the subgroups of patients.

This study concludes that AIMS and MOS-20 could be useful when evaluating the functional capacity and the quality of life of patients with gout, both in the daily clinical practice as well as in research trials.

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