



Sociedad Española  
de Reumatología -  
Colegio Mexicano  
de Reumatología

# Reumatología Clínica

www.reumatologiaclinica.org



Original Article

## Educational needs in patients with knee osteoarthritis using the SpENAT questionnaire<sup>☆</sup>



Pedro Leonardo Martínez-González,<sup>a,\*</sup> Araceli Chico Capote,<sup>a</sup> Miguel Estévez del Toro,<sup>a</sup> Tania Hidalgo Costa<sup>b</sup>

<sup>a</sup> Servicio de Reumatología, Hospital Docente Clínico-Quirúrgico Hermanos Ameijeiras, La Habana, Cuba

<sup>b</sup> Servicio de Bioestadística, Hospital Docente Clínico-Quirúrgico Hermanos Ameijeiras, La Habana, Cuba

### ARTICLE INFO

#### Article history:

Received 18 May 2021

Accepted 2 September 2021

Available online 26 April 2022

#### Keywords:

SpENAT

Osteoarthritis

Educational Needs Assessment Tool

### ABSTRACT

**Introduction:** Knee osteoarthritis (KOA) is a major public health issue because it causes pain and functional limitation in patients. Engagement with self-management may, however, minimize the impact of KOA on the health of patients suffering this illness. To be fully engaged with self-management activities, knowledge about KOA is a prerequisite. There is data on people's understanding of KOA and their needs for information about KOA. The Educational Needs Assessment Tool-Spanish version (SpENAT) is a self-reported questionnaire that assesses educational needs (Ned) in order to provide information adapted and focused on patients with knee KOA. It comprises 39 questions grouped into seven domains: Pain, Movement, Feelings, Osteoarthritis, Medical treatment, Non-medical treatment, Help.

**Objectives:** To estimate the Ned in patients with knee KOA using the SpENAT.

**Material and method:** An observational, descriptive, and cross-sectional study was carried out in 215 patients with a diagnosis of knee KOA according to the criteria of the American College of Rheumatology who attended the service's protocolized consultation of knee conditions of rheumatology at the "Hermanos Ameijeiras" Surgical Clinical Hospital during the study period between January 2017 and August 2020. Demographic data, educational level and characteristics of the disease were recorded. All patients completed the SpENAT and were questioned about the sources they turn to obtain information on their disease.

**Results:** Women over 50 years of age and overweight with a diagnosis of OA predominated. Major Ned were observed in the domains of movement, help, pain, feeling, KOA. Patients over 50 years of age, female, normal weight, and active workers showed greater interest in the movement domain. The most used source of information was the rheumatologist (91.60%).

**Conclusion:** The Ned in patients with knee KOA are high, and are higher in the domains of movement, pain, help and feeling. The rheumatologist is the main source of information for patients with KOA, it seems wise to design a targeted strategy to educate people about KOA to provide, support and prepare them for self-management.

Published by Elsevier España, S.L.U.

## Las necesidades educativas (no cubiertas) en pacientes cubanos con artrosis de rodilla mediante el cuestionario SpENAT

### RESUMEN

**Introducción:** La osteoartritis de rodilla (OA) es un problema importante de salud pública porque causa dolor y limitación funcional en los pacientes. Sin embargo, el compromiso con la autogestión puede minimizar el impacto de la OA en la salud de los pacientes que padecen esta enfermedad. Para estar completamente comprometido con las actividades de autogestión, el conocimiento sobre OA es un

#### Palabras clave:

SpENAT

Osteoartritis

Educational Needs Assessment Tool

<sup>☆</sup> Please cite this article as: Martínez-González PL, Chico Capote A, Estévez del Toro M, Hidalgo Costa T. Las necesidades educativas (no cubiertas) en pacientes cubanos con artrosis de rodilla mediante el cuestionario SpENAT. Reumatol Clín. 2022;18:603–607.

\* Corresponding author.

E-mail address: [pedroleomartinez@gmail.com](mailto:pedroleomartinez@gmail.com) (P.L. Martínez-González).

requisito previo. Hay datos acerca de la comprensión de las personas sobre OA y sus necesidades de información sobre OA. La Educational Needs Assessment Tool-versión en español (SpENAT, por sus siglas en inglés) es un cuestionario autoinformado que evalúa las necesidades educativas (Ned) con el fin de brindar información adaptada y enfocada a pacientes con OA de rodilla. Consta de 39 preguntas agrupadas en 7 dominios: dolor, movimiento, sentimientos, osteoartritis, tratamiento médico, tratamiento no médico y ayuda.

**Objetivos:** Estimar las Ned en pacientes con OA de rodilla utilizando el SpENAT.

**Material y método:** Se realizó un estudio observacional, descriptivo y transversal en 215 pacientes con diagnóstico de OA de rodilla según criterio del American College of Rheumatology que acudieron a la consulta protocolizada de patología de rodilla del servicio de Reumatología del Hospital Clínico Quirúrgico Hermanos Ameijeiras durante el período de estudio comprendido entre enero de 2017 y agosto de 2020. Se registraron datos demográficos, nivel educativo y características de la enfermedad. Todos los pacientes completaron el SpENAT y se les preguntó sobre las fuentes a las que recurrieron para obtener información sobre su enfermedad.

**Resultados:** Predominaron las mujeres mayores de 50 años y con sobrepeso con diagnóstico de OA. Se observaron mayores Ned en los dominios movimiento, ayuda, dolor, sentimiento, OA. Los pacientes mayores de 50 años, mujeres, con normopeso y trabajador activo mostraron mayor interés en el dominio del movimiento. La fuente de información más utilizada fue el reumatólogo (91,60%).

**Conclusión:** Las Ned en pacientes con OA de rodilla son altas, resultando más altas en los dominios de movimiento, dolor, ayuda y sentimiento. El reumatólogo es la principal fuente de información para los pacientes con OA. Parece prudente tratar de diseñar una estrategia específica para educar a las personas sobre OA con el fin de proporcionarles, apoyarlas y prepararlas para el autocuidado.

Publicado por Elsevier España, S.L.U.

## Introduction

According to the World Health Organisation (WHO), osteoarthritis of the knee (OA), affects 80% of the population over 65 years of age in industrialised countries and is the most important cause of functional disability of the locomotor system in all races and geographical areas.<sup>1–3</sup> Osteoarthritis is a degenerative joint disease that causes pain, deformity and inability to perform daily activities.<sup>4,5</sup> Health education is a basic element in the treatment of any disease; in the case of OA, it enables patients to take care of themselves and perform daily activities. This influences the recovery process as an integral part of medical care.<sup>6–8</sup> All guidelines agree that education, access to quality information, good postural habits, avoiding forced body positions that misalign anatomical segments, adequate exercise and weight loss are effective general measures applicable to any patient with knee OA of any degree.<sup>9,10</sup> To this end, it would be useful for clinicians to have a tool that assesses their perception of patients' educational needs (ENs).

The Educational Needs Assessment Tool (ENAT) is a self-administered questionnaire developed in the United Kingdom and validated in several European countries (Spain, Portugal, Germany, Poland, Holland, Norway and Sweden), giving rise to the Spanish version of SpENAT.<sup>11,12</sup>

Due to the lack of systematic evolution of EN in patients with OA, it was proposed to carry out this study in order to assess ENs using the SpENAT questionnaire and to identify the source of information on this disease.

## Material and methods

An observational, descriptive and cross-sectional study was conducted in patients with a diagnosis of OA who attended the protocolised consultation of the Rheumatology service at the Hospital Clínico Quirúrgico Hermanos Ameijeiras, during the period from January 2017 to September 2020. The inclusion criteria were: patients over 18 years of age with a diagnosis of OA according to the criteria of the American College of Rheumatology (ACR), who gave their consent to participate. Patients with a diagnosis of neoplastic disease and any other known rheumatic condition, as well as patients psychologically unable to respond, were excluded. Demographic data were recorded comparing needs by domain according

to sex, age, occupation, schooling, nutritional status, evolution of symptoms and most frequently used sources of information related to rheumatological problems.

SpENAT consists of 39 questions grouped into 7 domains: pain management (6 questions), movement (5 questions), feelings (4 questions), osteoarthritis process (7 questions), medical treatment (7 questions), non-medical treatment (6 questions) and help (4 questions). The answers are based on a 5-point Likert-type scale: "not important at all", "a little important", "quite important", "very important" and "extremely important".

## Statistical data

Sample characteristics and the ENs for each domain were summarised using absolute numbers, percentages, mean and standard deviation; needs per domain were compared according to sex, age, occupation, education, nutritional status, symptom evolution and most used sources of information, using Student's t-test and Pearson's Chi-square. A significance level=0.05 was used in all hypothesis tests.

## Results

In the present study, no significant differences were found in the ENs according to age, sex, symptom evolution, occupation, nutritional status and educational level. In a universe of 297 patients under study, the sample consisted of 215 patients diagnosed with OA. **Table 1** shows that 72.6% of the research sample was female. The mean age was 59.47 years (SD 13.06).

When looking at the responses obtained in the SpENAT questionnaire, higher EDs were obtained in the domains of movement, help, pain and feeling (**Table 2**). Women showed higher ENs than men in the movement domain ( $P=.056$ ); patients  $\geq 50$  years presented higher ENs in the osteoarthritis domain ( $P=.218$ ), and those  $>9$ th grade of study showed higher ENs in movement ( $P=.790$ ) and helping ( $P=.405$ ) domains. Patients with normal weight presented higher ENs in the domains of pain ( $P=.416$ ), movement ( $P=.188$ ) and medical treatment ( $P=.278$ ). In terms of time of evolution, patients with over one year had higher ENs in the movement domain ( $P=.083$ ). No statistically significant differences were observed in each of the domains.

**Table 1**  
Sample characteristics.

Characteristics	
Age in years, mean (SD)	59.47 (13.06)
Age < 50 years, n (%)	39 (18.1)
Age ≥ 50 years, n (%)	176 (81.9)
Gender, n (%)	
Male	59 (27.4)
Female	156 (72.6)
Schooling, n (%)	
≤ 9.th grade	29 (13.5)
> 9.th grade	186 (86.5)
Occupation, n (%)	
Active	143 (66.5)
Retired	72 (33.5)
Evolution of symptoms, n (%)	
≤ 1 year	14 (8.4)
> 1 year	197 (91.6)
Nutritional status, n (%)	
Normal weight	28 (13.0)
Overweight/obese	187 (87.0)
Affected knee	
Right	141 (65.6)
Left	68 (31.6)
Both	6 (2.8)

Regarding information sources to which patients usually turn (Fig. 1), the most frequently consulted source of information was the rheumatologist (91.6%).

**Discussion**

The present study evaluated the educational needs of patients in Cuba with a diagnosis of OA, and found a high level of education in relation to this entity, which could be related to the high educational level of the patients who participated in this study. In Cuba, the educational level is ninth grade.<sup>13</sup> In addition, it could be linked to the proximity to health services where every 120 families have

**Table 2**  
Patients with knee OA by SpENAT characteristic and domains.

Characteristics	Domains (SpENAT)						
	Mean (SD)						
	Pain n (%)	Func. n (%)	Mood n (%)	OA n (%)	Medical ttment. n (%)	Mon medical ttment. n (%)	Help n (%)
Age (years)							
< 50	20.82 (1.70)	18.15 (2.86)	13.82 (.82)	25.90 (.82)	20.49 (1.59)	18.36 (1.81)	14.10 (.72)
≥ 50	20.77 (1.82)	17.95 (1.81)	13.78 (.75)	26.08 (.87)	20.82 (1.61)	18.75 (1.75)	14.02 (.79)
Sex							
Male	20.72 (2.04)	17.55 (1.03)	13.83 (.69)	26.05 (.89)	20.83 (1.63)	18.76 (1.76)	14.01 (.73)
Fem	20.79 (1.71)	18.15 (2.28)	13.77 (.78)	26.05 (.84)	20.73 (1.6)	18.65 (1.76)	14.05 (.78)
Schooling (years)							
> 9	21.27 (1.43)	17.89 (.93)	13.82 (.80)	26.20 (.90)	20.44 (1.47)	18.37 (1.61)	13.93 (.65)
≤ 9	20.69 (1.84)	18.00 (2.15)	13.78 (.75)	26.02 (.85)	20.81 (1.62)	18.73 (1.78)	14.05 (.78)
Occupation							
Retired	20.65 (2.02)	17.85 (1.47)	13.65 (.71)	26.15 (.80)	20.60 (1.71)	18.50 (1.88)	13.99 (.80)
Active	20.84 (1.68)	18.06 (2.27)	13.86 (.77)	26.00 (.89)	20.85 (1.56)	18.78 (1.70)	14.07 (.76)
Nutritional status							
Normal weight	21.03 (1.97)	18.46 (2.71)	13.50 (.79)	26.00 (.72)	21.07 (1.41)	19.07 (1.41)	14.17 (.72)
Overweight/obese	20.73 (1.77)	17.91 (1.91)	13.83 (.74)	26.05 (.88)	20.71 (1.63)	18.62 (1.80)	14.02 (.77)
Evolution of symptoms							
≤ 1	20.00 (2.38)	17.07 (1.07)	13.85 (.66)	26.07 (.83)	20.57 (1.40)	18.43 (1.70)	14.00 (.68)
> 1	20.83 (1.76)	18.05 (2.09)	13.78 (.76)	26.08 (.85)	20.75 (1.63)	18.67 (1.77)	14.03 (.78)

Fem: female; Func: function; Male: male; Mood: mood; OA: osteoarthritis; SD: standard deviation; SpENAT: Educational Needs Assessment Tool - Spanish version; Ttment: treatment.

a basic working group made up of a doctor and nurse, as well as primary level care specialists.<sup>14</sup>

Studies on the prevalence and incidence of OA vary according to the geographical area and country of origin of the population, the joint studied, as well as genetic and environmental risk factors. Women over 50 years of age are the most affected affectedas,<sup>5,15–17</sup> coinciding with our study.

According to the results obtained, Cuban women with OA who attend rheumatology consultations are interested in movement, results that are similar to those reported by other authors.<sup>18–20</sup> This could be due to the need for movement in the Cuban population in general, where daily life requires activities such as carrying buckets of water, as well as shopping baskets. However, all patients surveyed have a greater interest in receiving information in the domains of movement, help, pain, feeling, illness, as expressed in other studies.<sup>11,21,22</sup> This could be related to the inability to perform daily activities due to the pain caused by OA, and the psychological impact this can have on the lack of knowledge about the disease.

Assessing the daily routine of the patient’s life, it was observed that the duration in the evolution of OA has a progressive impact on the decrease in functional capacity, presenting higher ENs in the movement domain, in line with what is reported in other rheumatological diseases, such as rheumatoid arthritis where patients present an increase in difficulties regarding daily activities in a short period of time after the diagnosis of the disease, as suggested by Ambriz Murillo et al.,<sup>23</sup> which could be related to the activity of the disease during that short period of time.

It was evident that patients whose level of education exceeded the ninth grade had higher ENs in the domains of movement and helping, similarly suggested by Sierakowska et al.;<sup>24</sup> given the level of education shown by the patients, it could be related to the need to seek knowledge about the behaviour of their disease and the impact of their disease on daily activities.

It was observed that the main source of information obtained by the patient was the rheumatologist, coinciding with the results obtained in other studies.<sup>2,7</sup>

Reporting bias cannot be ruled out, as the questionnaire was administered in the rheumatology consultation room, due to the

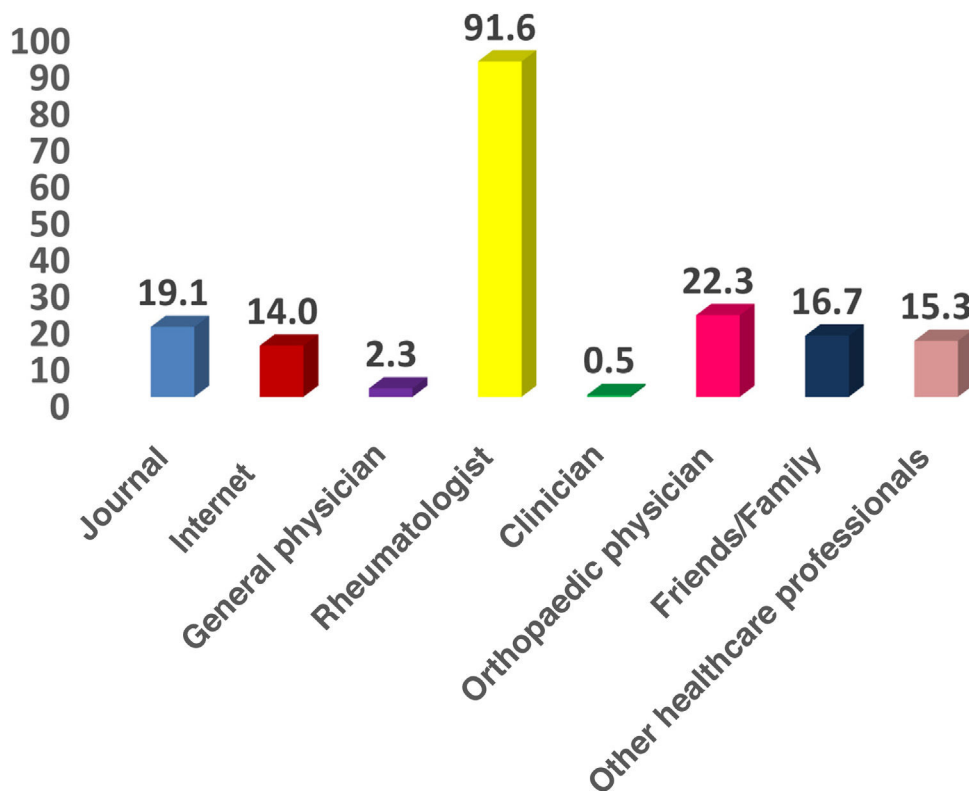


Fig. 1. Information source.

extensive training of the rheumatologist and the free access of patients to rheumatology services.

On the other hand, not having measured knowledge needs using the SpENAT at the onset of OA diagnosis or during the first rheumatology consultation could be taken as a limitation of this study, as this knowledge could modify individual ENS.

**Conclusion**

The level of knowledge in OA patients needs to be improved, and although in other contexts a multidisciplinary team is suggested,<sup>25,26</sup> in Cuba and especially in this study, the rheumatology specialist plays a fundamental role, and can identify the best scenarios for transmitting information about the disease.

**Conflict of interests**

This research has not received specific support from public sector agencies, or commercial not-for-profit entities.

The authors have no conflicts of interest to declare.

**References**

1. Organización Mundial de la Salud OMS. Aplicaciones de la Epidemiología al estudio de los ancianos. Informe técnico. 2004. Accessed from: <http://apps.who.int/iris/bitstream/10665/39141/1/WHO.TRS.706.spa.pdf>. [Accessed 15 July 2019].
2. Pérez S, Santa Cruz M, Sosa J, Kohan P, Medina M, Klajn D, et al. Evaluación de las necesidades educacionales de los pacientes con artritis reumatoide mediante el cuestionario SpENAT. *Reumatol Clin*. 2020;16:386–90. <http://dx.doi.org/10.1016/j.reuma.2018.09.002>.
3. Brembo E, Kapstad H, Eide T, Månsson L, van Dulmen S, Eide H. Patient information and emotional needs across the hip osteoarthritis continuum: a qualitative study. *BMC Health Serv Res*. 2016;16:88. <http://dx.doi.org/10.1186/s12913-016-1342-5>.
4. Barten DJ, Smink A, Swinkels IC, Veenhof C, Schers HJ, Vliet T, et al. Factors associated with referral to secondary care in patients with osteoarthritis of the

- hip or knee after implementation of a stepped-care strategy. *Arthritis Care Res (Hoboken)*. 2017;69:216–25.
5. Chou L, Ellis L, Papandony M, Seneviwickrama KLMD, Cicuttini FM, Sullivan K, et al. Patients' perceived needs of osteoarthritis health information: A systematic scoping review. *PLoS One*. 2018;13:e0195489. <http://dx.doi.org/10.1371/journal.pone.0195489>.
6. Sierakowska M, Sierakowski S, Sierakowska J, Horton M, Ndosi M. Developing the Polish Educational Needs Assessment (pol-ENAT) in rheumatoid arthritis and systemic sclerosis: a cross cultural validation study using rasch analysis. *Qual life Res*. 2015;24:721–33.
7. Martínez Figueroa R, Martínez Figueroa C, Calvo Rodríguez R, Figueroa Poblete D. Osteoarthritis (artrosis) de rodilla. *Rev Chil Ortop Traumatol*. 2015;56:45–51.
8. Thomas T, Browne H, Mobasheri A, Rayman MP. What is the evidence for a role for diet and nutrition in osteoarthritis? *Rheumatology*. 2018; 57 Suppl:61–74. <http://dx.doi.org/10.1093/rheumatology/key011>.
9. Abate M, Vanni D, Pantalone A, Salini V. Hyaluronic acid in knee osteoarthritis: preliminary results using a four months administration schedule. *Int J Rheum Dis*. 2017;20:199–202.
10. Huber E, Boger A, Meichtry A, Bastiaenen C. Validation of the 7-item knee replacement patient education questionnaire (KR-PEQ-7), based on the 16-item knee osteoarthritis patient education questionnaire (KOPEQ). *BMC Musculoskeletal Disorders*. 2020;21:468.
11. Schouffoer A, Mwidimi E, Ndosi T, Vlieland V, Jorit PM, Meesters JL. The educational needs of people with systemic sclerosis: a cross-sectional study using the dutch version of the Educational Needs Assessment Tool (D-ENAT). *Rheumatol Int*. 2016;36:289–94.
12. Kroon FPB, van der Burg LRA, Buchbinder R, Osborne RH, Johnston RV, Pitt V. Self-management education programmes for osteoarthritis. *Cochrane Database Syst Rev*. 2014. CD008963CD896355.
13. Cuba. Oficina Nacional de Estadísticas e Información (ONEI). Educación: Resumen del curso escolar 2018/2019 e Inicio del curso escolar 2019/2020. Elaborada por los especialistas del Centro de Gestión de la Información Económica, Medio Ambiental y Social de la ONEI. Cuba 2020.
14. González Cárdenas LT, Cuesta Mejías L, Pérez Perea L, Presno Labrador MC. El Programa del médico y enfermera de la familia: desarrollo del modelo de atención médica en Cuba. *Rev Panam Salud Publica*. 2018;42:e31. <http://dx.doi.org/10.26633/RPSP.2018.31>.
15. Ali S, Kokorelias K, MacDermid J, Kloseck M. Education and social support as key factors in osteoarthritis management programs: a scoping review. *Hindawi Arthritis*. 2018;2018:2496190. <http://dx.doi.org/10.1155/2018/2496190>.
16. Carlesso LC, Niu J, Segal NA, Frey-Law LA, Lewis CE, Nevitt MC, Neogi T. The effect of widespread pain on knee pain worsening, incident knee osteoarthritis (OA), and incident knee pain: the Multicenter OA (MOST) study. *J Rheumatol*. 2017;44:493–8. <http://dx.doi.org/10.3899/jrheum.160853>.

17. Castrejón I, Bergman MJ, Pincus T. MDHAQ/RAPID3 to recognize improvement over 2 months in usual care of patients with osteoarthritis, systemic lupus erythematosus, spondyloarthritis, and gout, as well as rheumatoid arthritis. *J Clin Rheumatol*. 2013;19:169–74. <http://dx.doi.org/10.1097/RHU.0b013e3182936b98>.
18. Haglund E, Bremander A, Bergman S, Larsson I. Educational needs in patients with spondyloarthritis in Sweden – a mixed-methods study. *BMC Musculoskelet Disord*. 2017;18:335. <http://dx.doi.org/10.1186/s12891-017-1689-8>.
19. Favero M, Ometto F, Salafi F, Belluzi E, Ortolan A, Lorenzin M, et al. Validation of the Italian version of the educational needs assessment tool in rheumatoid arthritis patients and factors associated with educational needs. *J Pers Med*. 2020;10:150. <http://dx.doi.org/10.3390/jpm10040150>.
20. Sierakowska M, Sierakowski S, Sierakowska J, Krajewska-Kułak E. Comparative analysis of educational needs of patients with rheumatic diseases selected based on the Polish version of the Educational Needs Assessment Tool (Pol-ENAT). *Reumatologia*. 2016;54:153–60. <http://dx.doi.org/10.5114/reum.2016.62468>.
21. Sharma A, Kudesia P, shi Q, Gandhi R. Anxiety and depression in patients with osteoarthritis: impact and management challenges. *Open Access Rheumatol*. 2016;8:103–13.
22. Sung YK, Kim H, Cha SJ, Kim SH, Ndosi M, Cho SK. Developing the Korean Educational Needs Assessment Tool (Korean ENAT) in rheumatoid arthritis: cross-cultural validation using Rasch analysis. *Korean J Intern Med*. 2021;36:1014–22. <http://dx.doi.org/10.3904/kjim.2019.422>.
23. Ambriz Murillo Y, Menor Almagro R, Campos-González ID, Cardiel MH. Health related quality of life in rheumatoid arthritis, osteoarthritis, diabetes mellitus, end stage renal disease and geriatric subjects. Experience from a General Hospital in Mexico. *Reumatol Clin*. 2015;11:68–72. <http://dx.doi.org/10.1016/j.reuma.2014.03.006>.
24. Sierakowska M, Klepacka M, Sierakowski S, Pawlak-Buś K, Leszczyński P, Majdan M, et al. Assessment of education requirements for patients with rheumatoid arthritis, based on the Polish version of the Educational Needs Assessment Tool (Pol-ENAT), in the light of some health problems – a cross-sectional study. *Ann Agric Environ Med*. 2016;23:361–7. <http://dx.doi.org/10.5604/12321966.1203906>.
25. Stukstette M, Hoogeboom T, de Ruyter R, Koelmans P, Veerman E, den Broeder A, et al. A multidisciplinary and multidimensional intervention for patients with hand osteoarthritis. *Clin Rehabil*. 2012;26:99–110.
26. Gay C, Chabaud A, Guilley E, Coudeyre E. Educating patients about the benefits of physical activity and exercise for their hip and knee osteoarthritis. Systematic literature review. *Ann Phys Rehabil Med*. 2016;59:174–83.