

Original Paper

Identification of Osteoarthritis with Multiple Joint Involvement in Elderly Institutionalized Patients Concomitant with Psycho-Kinesiotherapeutic Intervention Strategies – A Preliminary Study

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REZUMAT

Identificarea osteoartritei cu determinări multiple la pacienții de vârstă a III-a instituționalizați și a strategiilor de intervenție psiho-kinetoterapeutică – studiu preliminar

Obiectivele studiului: Identificarea osteoartritei cu determinări multiple la pacienții de vârstă a III-a instituționalizați și a articulațiilor cel mai des incriminate în această patologie. Identificarea necesităților de intervenție în scopul elaborării strategiei operaționale în controlul evoluției osteoartritei cu determinări multiple la pacienții de vârstă a III-a instituționalizați.

Material și metodă: A fost elaborat un chestionar din 22 de întrebări, cuprinzându-se aspectele demografice privind genul, vârsta și mediul de proveniență și întrebări specifice chestionarului, care a fost ulterior aplicat unui număr de 70 de pacienți de vârstă a III-a instituționalizați. Din datele obținute în urma analizei chestionarului constatăm necesitatea unei intervenții în echipă multidisciplinară (medic-kinetoterapeut-psihoterapeut) care să elaboreze o strategie operațională îndreptată spre reabilitarea pacientului de vârstă a III-a instituționalizat cu osteoartrită cu determinări multiple în vederea creșterii calității vieții la acești pacienți.

Concluzii: Se impune asocierea tratamentului medicamentos cu cel psihoterapeutic și kinetoterapeutic care să conducă la menținerea mobilității și stabilității articulare, precum și la diminuarea durerii. Se impune necesitatea creării unor centre de kinetoterapie și psihoterapie în centrele de bătrâni cu scopul stabilirii unei strategii terapeutice în echipă multidisciplinară în controlul evoluției osteoartritei cu determinări multiple la pacienții de vârstă a III-a.

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Cuvinte cheie: osteoartrită, kinetoterapie, psihoterapie, chestionar, vârsta a III-a

ABSTRACT

Aims of the study. The identification of osteoarthritis with multiple joint involvement in elderly institutionalized patients and of the joints most commonly incriminated in this pathology. Identifying the necessities of intervention in order to develop an operational strategy to control the evolution of osteoarthritis with multiple joint involvement in elderly institutionalized patients. **Methodology.** We developed a questionnaire consisting of 22 questions that included demographic data regarding gender, age and place of residence in addition to specific questions, which was subsequently applied to a number of 70 elderly institutionalized patients. The data obtained from the analysis of the questionnaire revealed the need for intervention in a multidisciplinary team (doctor-kinesiotherapist-psychotherapist) in order to develop an operational strategy directed towards the rehabilitation of the elderly institutionalized patient with multiple joint involvement osteoarthritis thus improving the quality of life in these patients. **Conclusions.** Kinesiotherapy and psychotherapy should be associated to the standard drug regimen in order to preserve the mobility and stability of joints and to alleviate pain. It is necessary to integrate departments of kinesiotherapy and psychotherapy in senior care centers in order to elaborate a therapeutic strategy in a multidisciplinary team with the purpose of controlling the evolution of multiple joint involvement osteoarthritis in elderly patients.

Key words: osteoarthritis, kinesiotherapy, questionnaire, elderly patients

INTRODUCTION

Related to the rehabilitation of patients with osteoarthritis, kinesiotherapy addresses the methods, procedures and methodology that will be used depending on the anatomic, functional and clinical stage of the disease and its location after setting treatment goals. Furthermore, priorities of the rehabilitation program are established considering both medical issues and also paramedical and social aspects [1]. The kinesiotherapeutic operational strategy in rehabilitating patients with osteoarthritis is planned according to the characteristic comorbidities of elderly patients [2]. Clinical trials highlight that cardiovascular mortality is reduced when sedentary individuals become moderately active [3,4]. The methods of investigation used in the present study were designed taking in consideration the possibility of rigorously choosing representative samples, the variables of high interest and the validity and precision of the methods we used [5,6]. This has enabled us rapid access to certain information i.e. delineating a clear image on various patient characteristics, such as somatic health problems, behavioral habits, attitudes and practices related to specific therapies, as well as the interventions required in the rehabilitation of these patients in order to manage the intervention programs and to estimate, both quantitatively and qualitatively, the necessary resources for the implementation of such interventional programs.

AIMS OF THE STUDY

Identification of osteoarthritis with multiple joint involvement in elderly institutionalized patients and of the joints most commonly incriminated in this pathology.

Identifying the necessities of intervention in order to develop an operational strategy to control the evolution of osteoarthritis with multiple joint involvement in elderly institutionalized patients.

METHODOLOGY

We developed a questionnaire consisting of 22 questions that included demographic data regarding gender, age and place of residence in addition to specific questions, which was subsequently applied to a number of 70 elderly institutionalized patients with joint pain. The answers to the questionnaire were centralized and statistically analyzed using descriptive statistical methods.

In terms of demographic characteristics, of the 70 patients we interviewed, 52 were female (representing 74.3% of the total) and 18 males (representing 25.7% of the total), ages 50 to 92 years with an average of 70.9 years. Most patients (64, representing 91.4%) lived in urban areas and only 6 patients (representing 8.6%) came from rural areas.

To the question "In which of the following joints is pain more intense?" the order of frequency by patient responses was: "knee" – 61, accounting for 87.1%; "spine" – 53, accounting for 75.7%; "hip" – 47, accounting for 67.1%; "hand" – 26, representing 37.1%; "shoulder" – 16, representing 22.9% and "elbow" – 1.4%. Considering that this was a multiple choice question, we concluded that the majority of the patients surveyed did not exhibit monoarticular pain, but rather intense pain in two, three or even four joints.

When asked "Do you also feel stiffness in the painful joint(s)?", the majority of patients i.e. 49 (representing 70% of the total) answered positively, mentioning the fact

that stiffness occurs most often in the morning or after a longer resting period. 12 patients (representing 17.1%) responded negatively and the remaining 9 cases (representing 12.9%) responded "I do not know".

When asked "In which of the following positions is joint pain more intense?", more than half of respondents (36, representing 51.4% of total) mentioned both positions and 32 (representing 45.7%) mentioned orthostatism. Only 2 patients (representing 2.9%) answered "clino-statism".

When asked "How long have you been suffering from joint pain?", the answers provided by the 70 patients were, in order of frequency of occurrence, the following: "10 – 12 years" – 21 patients (30%); "4 – 6 years" – 18 patients (25.7%); "3 – 15 years" – 14 patients (20%); "7 – 9 years" – 10 patients (14.3%); "more than 15 years" – 4 patients (5.7%); "less than 3 years" – 3 patients (4.3%).

To the question "Have you ever undergone kinotherapeutic sessions for treating the joint pain you mentioned?" the majority of respondents, 75.7% of the total (53 patients), responded negatively, 17.1% (12 patients) responded positively and 7.1% (5 patients) offered an uncertain answer.

When asked "Have you ever undergone physiotherapeutic sessions for treating the joint pain you mentioned?", more than half of the interviewed answered positively (37 subjects, representing 52.8% of total), and 31 (representing 44.3%) negative reply. 2 patients (2.9%) gave an uncertain answer.

When asked "Have you ever attended a psychotherapeutic session when the joint pain started?", the majority of patients (66, representing 94.3% of total) offered negative answers. The remaining patients (4, representing 5.7% of total) gave uncertain responses. No patient selected the "yes" answer.

When asked "Have you ever used medication to alleviate pain in the joints you mentioned?", the majority of patients responded "yes" (62, representing 88.6% of total). Most of them mentioned that they have been prescribed drugs by a doctor (46, representing 74.2%) and the remaining 16 patients (25.8%) mentioned that they practiced self-medication. The drug treatment prescribed by a doctor included in most cases analgesics, NSAIDs and chondroprotection remedies. A total of 8 patients, representing 11.4%, gave uncertain answers. There were no negative responses.

When asked "Have you used creams or gels to alleviate the joint pain you mentioned?", the answers given by patients were also mostly positive (56 responses, representing 80%), of which only 5 patients, representing 8.9%, said they used products prescribed by a doctor, the majority (51 patients, representing 91.1%) using various ointments without a doctor's prescription. Another 11 responses (15.7%) were negative and the other 3 (4.3%) were uncertain.

When asked "Are your daily activities restricted

because of joint pain?" most patients gave positive answers (63, representing 90% of total). A total of 7 patients (10%) gave uncertain answers. There were no negative responses.

To the question "How would you describe your personal hygiene routine?" half of the patients responded "difficult" (35 patients), 22 patients (31.4% of the total) answered "easy" and 13 patients (18.6%) responded "do not know". There were no respondents for "impossible".

When asked "How do you assess your capacity to get dressed?" more than half of the patients responded "difficult" (38 patients, representing 54.3% of total), 21 patients (30%) responded "easy" and 11 patients (15.7%) responded "I do not know". There were no respondents for "impossible".

When asked "How do you assess the possibility of using the toilet?", most of the patients surveyed answered "difficult" (41 patients, representing 58.6% of total), 26 patients (37.1%) responded "easy", 2 patients (2.9%) responded "I do not know", and 1 patient (1.4%) answered "impossible".

To the question "How do assess your ability to walk?" most patients surveyed answered "difficult" (60 patients, representing 85.7% of total). Other 5 patients (7.1%) answered "easy", 3 patients (4.3%) answered "impossible" and 2 patients (2.9%) responded "I do not know".

To the question "Are you able to get satisfactory rest / sleep?" more than half of patients (37, representing 52.9% of the total) answered "difficult" and 33 patients (47.1%) responded "easy". No patients selected the "impossible" and "I do not know" answers.

When asked "How do you assess the ability to relax?" most of the subjects (44, representing 62.9% of the total) answered "difficult". Other responses were: "easy" – 10 subjects (14.3%), "impossible" – 9 subjects (12.8%) and "I do not know" – 7 subjects (10%).

To the question "Is joint pain affecting your ability to socialize?" the responses were as follows, in order of frequency: "yes" – 61 responses, representing the majority (87.2%), "I do not know" – 8 responses, representing 11.4%, and "no" – 1.4%.

When asked "Is joint pain making you feel sad and depressed?" almost all patients gave an affirmative answer (68, accounting for 97.1%). Two patients (2.9%) responded negatively. There were no respondents for "I do not know".

To the question "Do you feel secluded and do you find it difficult to get integrated in your community because of joint pain?" more than half of patients (39, representing 55.7% of total) responded affirmatively, 25 patients (35.7%) responded negatively and the remaining 6 patients (8.6%) were uncertain.

The summary of all responses provided by the 70 patients surveyed is provided below:

- The most painful joints mentioned were: "knee" (61 patients); "spine" (53 patients); "hip" (47

Table 1. Methods, techniques and means used in the treatment of elderly patients suffering from multiple joint involvement osteoarthritis **Operational objectives**

Methods, techniques, means	Operational objectives
antalgic and anti-inflammatory drugs	alleviating pain and combating the inflammatory process
using crutches and canes	protection of the joint
antideclive posture	reduce tumefaction and stimulating venous blood flow
neuromuscular facilitating techniques	reeducation of active control
controlled active exercises	preserve/increase muscle strength and elasticity
resistance exercises	increase muscle strength and resistance
passive exercises	maintaining normal joint range of motion and the trophicity of articular structures
counter-lateral exercises	prevention of physical deterioration
breathing exercises	blood oxygenation, better tissue perfusion
coordination exercises	preparing the patient for resuming activity
stabilizing orthoses	temporarily, during intense demanding daily activities
psychotherapeutic techniques	improving mental status, combating depression, raising self-esteem

patients);

- The majority of patients (70%) stated that they experience stiffness in the painful joints, especially in the early morning, during the first mobilizations or after prolonged resting;
- Over half of respondents (51.4%) mentioned the presence of joint pain in both orthostatism and clinostatism;
- In most of patients joint pain occurred: "10 – 12 years ago" and "4 – 6 years ago";
- Most patients did not attend kinesiotherapy (75.7%) or psychotherapy (94.3%) sessions but over half of them (52.8%) attended physiotherapy sessions;
- Most patients (88.6%) used medication for their joint conditions, and most of them followed a treatment prescribed by doctors;
- Most of the respondents have resorted to different creams, ointments, gels to reduce joint pain without a medical prescription;
- Most patients consider that their activities of daily living are affected;
- Most of the respondents found it difficult to perform certain activities such as personal hygiene routine, dressing, using the toilet, walking / movement, sleep / rest, relaxation;
- Almost all patients (97.1%) consider themselves sad and depressed because of joint pain;
- Over half of respondents (55.7%) are rather withdrawn and believe community integration has become more difficult since they began suffering from joint pain.

From the assessed data we noticed there is a need for intervention in a multidisciplinary team (doctor - kinesiologist - psychotherapist) to develop an operational strategy directed towards the rehabilitation of elderly institutionalized patients suffering from multiple joint involvement osteoarthritis with the goal to improve the quality of life in these patients.

We have identified the means, methods and techniques required to develop an operational plan aimed at the rehabilitation of the chronically ill institutionalized patient (**Table 1**).

CONCLUSIONS

Associating drug therapy with psychotherapy and kinesiotherapy is highly recommended in order to achieve the preservation of joint mobility and stability, as well as to alleviate pain.

It is necessary to customize the psycho-kinesiotherapeutic intervention according to individual risk factors, the presence of comorbidities in addition to the clinical, anatomical and functional status in pursuance of improving the quality of life for elderly institutionalized patients suffering from osteoarthritis with multiple joint involvement.

Additionally, it is necessary to integrate departments of kinesiotherapy and psychotherapy in senior care centers in order to elaborate a therapeutic strategy in a multidisciplinary team with the purpose of controlling the evolution of multiple joint involvement osteoarthritis in elderly patients.

REFERENCES

1. Tache GO. Ghid de medicin fizic i recuperare medical. Bucure ti: Editura Scripta, 2001, p. 131-141.
2. Tutu OF, Darabont R, Onciul S, Deaconu A, Petre I, Andrei RD, Dr goescu B, Doroban u M. Predictors of increased arterial stiffness in hypertensive patients. *Modern Medicine*. 2014; 21(2):96-105.
3. Cinteza D. Physical exercise and cardiovascular diseases; <http://4rehab.ro/?q=node/7>; accessed June 2015.
4. http://www.ms.ro/documente/Ghidul%20de%20prevenie%20Anexa%208_8815_6786.pdf; accessed June 2015.
5. Epuran M, Vâjial GE. Metodologia cercet rii în educa ie fizic i sport. Bucure ti: Editura Funda iei România de Mâine, 2008, p. 207-216.
6. Simion G, Amz r L. tiin a cercet rii mi c rii umane. Pite ti: Editura Universit ii din Pite ti, 2009, p. 144.
7. Ferechide D. Genunchiul – fiziologie aplicat . Bucure ti: Editura Medical , 2013.