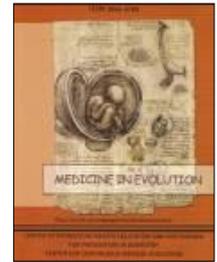


QUALITY OF LIFE IN DENTISTS WITH UPPER LIMB DISORDERS



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ABSTRACT

Objectives: Life quality assessment in dentists with upper limb musculoskeletal diseases.

Material and method: The study included 78 dentists diagnosed with rotator cuff tendinitis, epicondylitis, epitrochleitis, occupational effort-induced tenosynovitis, carpal tunnel syndrome or vascular disorders induced by occupational exposure to vibrations. Patients were classified into three homogenous groups who further received differentiated treatments (medication associated or not to specific medical recovery therapy) and were subjected to a staged assessment by use of the HAQ (Health Assessment Questionnaire) scale.

Results: The best results were recorded in the groups of dentists who received medication associated to periodical physiokinetotherapy followed by a long term programme performed at home.

Conclusions: The necessity of associated treatment for musculoskeletal disorders in order to achieve an optimal life quality becomes mandatory.

Key words: musculoskeletal diseases, life quality, medical recovery

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INTRODUCTION

The dentist is confronted with a series of overloads which impact the general health and are caused by daily work.

The term overload may be defined as being "the cause of an aberrant response of the human biological system to physical, psychological and biomechanical burdens specific for overdimensioned professional performance" ¹. In other words, we are dealing with an excessive effort imposed on organs and systems of the organism during the work process, overwhelming their functional capacity, which is considered to be normal ².

Professional gestuality in dentistry may lead to overload phenomena by its biomechanical characters: supporting instruments like holding a pencil, repetitiveness of gestures, special force needed sometimes, the extreme articular angulation for the purpose of directing instruments, frequent stereotypical movements, repeated at close intervals (under 1 minute), constantly involving the same muscular groups,

static muscular contractions, difficulties generated by remote areas to be reached thus excessively loading the upper limb.

The additional exposure to vibrations aggravates the situation ³. Other occupational risk factors are the excessive use of small muscles, the raised position of arms, but also the long term static load on muscles ⁴.

The quality of life is defined in modern medicine as a multidimensional concept involving the following fields: physical, emotional, functional and social ⁵.

The most frequent upper limb disorders affecting life quality in dentists are the following: rotator cuff tendinitis ("impingement syndrome"), epicondylitis, epitrochleitis, occupational effort-induced tenosynovitis (tenosynovitis of the extensor muscles of the fist, de Quervain's stenosing tenosynovitis, tenosynovitis of the flexor muscles of the fist), carpal tunnel syndrome and vascular disorders secondary to occupational exposure to vibrations ⁶⁻⁸.

MATERIAL AND METHOD

During one year (January 2010 - January 2011), 78 dentists in Timisoara, aged between 28 and 62 years, who presented varied symptoms such as rotator cuff tendinitis, epicondylitis, epitrochleitis, occupational effort-induced tenosynovitis, carpal tunnel syndrome and vascular disorders secondary to occupational exposure to vibrations were included in the study.

All the 78 subjects went through a complex clinical assessment and filled in the HAQ (Health Assessment Questionnaire) for the evaluation of life quality in the patient with upper limb musculotendinous disorder. Each sub-

ject benefited from three evaluations: initial, intermediate (at 6 months) and final (after one year).

The 78 subjects were classified into three pathology- and age-homogeneous groups and differentiated treatments were applied in each group:

- *group 1* received a complex symptomatic medication (analgesics, NSAI, myorelaxant drugs) with intermittent administration adjusted to the frequency of rebounds;
- *group 2* received a complex symptomatic medication (analgesics,

NSAI, myorelaxant drugs), intermittently administered, and specific physiokinotherapy (massage, electrotherapy for analgesic and myorelaxant purposes, kinetotherapy), in a specialized centre (20 sessions: 3 x 1/week, twice a year);

- *group 3* received a complex symptomatic medication (analgesics, NSAID, myorelaxant drugs), intermittently administered, and specific physiokinotherapy (massage, a-

nalgesic and myorelaxant electrotherapy, kinetotherapy) in a specialized centre (20 sessions: 3 x 1/week, twice a year) but also followed a programme of kinetotherapy adapted to be performed at home (with stress on stretching and relaxation techniques).

The main objectives of the complex treatment were: pain management, prevention of rebounds and patient education.

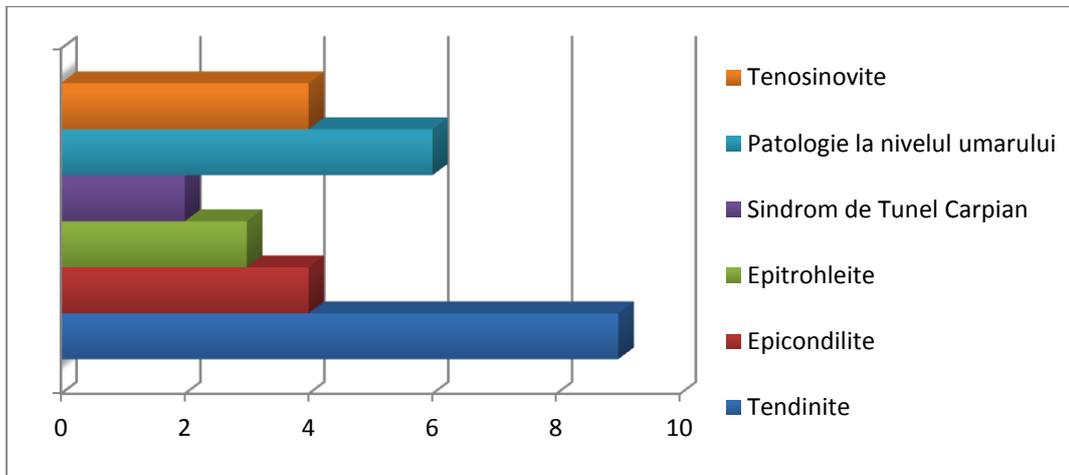


Fig. 1 - Group distribution of patients according to pathology



Fig. 2 - Kinetotherapy for the recovery of articular mobility (personal collection).

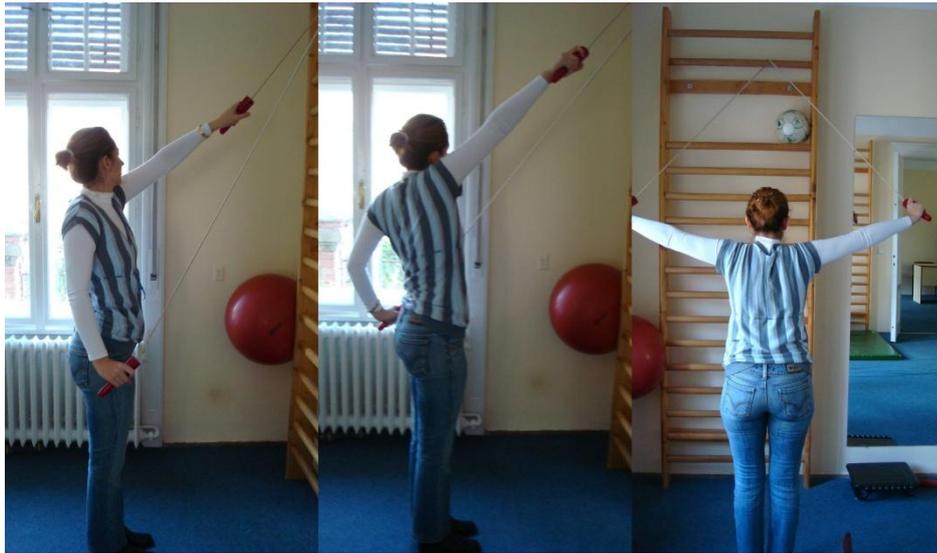


Fig. 3 - Kinetotherapy for the recovery of articular mobility (personal collection).



Fig. 4 - Analgesic electrotherapy (personal collection).

RESULTS

Complex evaluation methods showed a better evolution of group 3 as compared to groups 1 and 2, and of group 2 as compared to group 1, both at intermediate and final assessments (1 year), even though, initially, the complex clinical examination and functional indexes were comparable in the three groups.

Subjects in group 1, who received only complex medication, had more rebounds during the year of monitoring; subjects in group 2 who received complex medication accompanied by specific physiokinetotherapy in a specialized centre only had 1 - 2 mild rebounds during the year of monitoring; subjects in group 3 who received com-

plex medication, specific physiokineto-therapy in a specialized centre twice a year and followed a simple kinetothe-rapy programme adapted for home, based on stretching and relaxation techni-ques, and adhered to the measures of orthopedic hygiene, did not have any rebound during the year of monitoring.

A predominance of the female gen-der (48 cases) over the male gender (30 cases) in the group of dentists was ob-served.

The problems of the upper limb neuro-musculo-arthro-kinetic appara-tus in dentists do not necessarily occur with age, but are strictly linked to: du-

ration of practice, daily average num-ber of working hours, the physical ac-tivity outside the working sched-ule. Most cases have around 10 years of dentistry practice and work 6 – 8 hours a day, with alternate (29 cases) versus continuous schedules (49 cases).

Regardless of the type of activity performed in the dental practice, the correct insertion of breaks is very im-portant.

The study results showed that only 20 persons adequately took breaks and, of the remaining 58 persons, 26 take breaks, but incorrectly, and the rest do not take breaks at all.

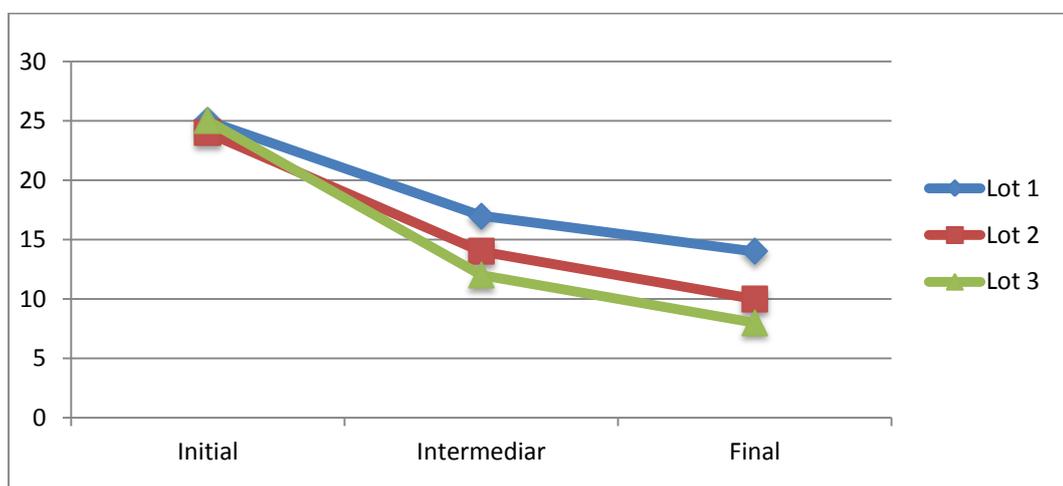


Fig. 5 - Graph representing the evolution of groups depending on the mean value of HAQ score in all three assessments

CONCLUSIONS

Dentists with upper limb neuro-musculo-arthro-kinetic disorders must benefit from a complex medical recovery and follow a light kinetothe-rapy adapted for home, but also they must adhere to orthopedic hygiene measures in order to achieve a significant im-provement of life quality until no rebo-unds of the disease occur.

Starting from the premise that it is easier, less expensive and less time con-suming to prevent than to treat such

diseases, keeping the right posture du-ring professional activity, taking breaks during the work programme but also performing a minimal stretching pro-gramme are recommended.

The need for an early individua-lized programme for medical recovery is observed for the previously menti-oned pathology in order to support long-term professional activity in opti-mal conditions.

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