

STATISTICAL STUDY ON „HUMAN-ORIENTED” ERGONOMICS IN DENTAL PRACTICES IN ARAD AND TIMIS COUNTIES

Valeria Covrig¹, Popescu Mugur George¹, Ionuț Bușan¹

Rezumat:

Ergonomia a apărut ca știință în Marea Britanie, în urmă cu 75 de ani, și a fost implementată în stomatologie în anul 1964.

În România prima carte despre ergonomie a fost publicată în anul 1974, dar a durat aproape 30 de ani, în anul 2003, până ce materia să fie inclusă în curricula academică.

Astfel că mulți practicieni nu au deloc noțiuni de ergonomie, iar cele ce există sunt aplicate în mod empiric.

Această lucrare prezintă un studiu statistic efectuat în 60 de cabinete stomatologice din județele Arad și Timiș asupra conceptelor elementare de ergonomie, mai exact: „Postura de lucru a medicului”

„O postură corect asimilată” este punctul de plecare pentru toți ceilalți indicatori: poziția asistentului, poziția pacientului, organizarea echipamentului și a instrumentarului, etc.

Concluziile studiului prezintă o realitate tristă asupra aplicării principiilor ergonomice de către practicieni.

Pe lângă concluzia studiului care prezintă scăderile din acest domeniu, am dori să subliniem deasemenea următoarele:

Medicina dentară a secolului XXI pune din ce în ce mai mult accent pe factorul uman, factor neglijat în ultima perioadă în detirmentul progresului tehnologic. Conceptele de „ergonomie uman-orientată” ca și conceptul de „logica eficienței” reprezintă un indicator pentru viitorul care plasează pacientului pe primul plan, practicianul pe al doilea plan și organizarea spațiului de muncă pe planul al treilea.

Abstract:

Ergonomics appeared as a science in Great Britain, 75 years ago, and was implemented in stomatology in 1964.

In Romania, the first book on ergonomics was published in 1974 but it was only in 2003 when this subject matter had been included in the university curriculum.

Therefore, many practitioners have no knowledge at all or only poor knowledge which they apply empirically.

This paper presents a statistical study performed in 60 stomatological cabinets in the Timis

and Arad counties on the basic concept of ergonomics, namely „ The working posture of the physician”.

„ The correctly assimilated posture” is the starting point for all the other indicators, i.e. the position of the assistant, of the patient, the organization of the equipment and of the instrumentarium, etc.

The results of the study are to the detriment of the practitioners.

As a conclusion of the study pointing out the shortcomings and their scope, we would also like to show the followings:

- *the stomatology of the 21st century gives more and more importance to the human factor which has been neglected until now to the advantage of technology;*
- *the „human-centered” ergonomics as well as the concept of „ the logic of efficiency”, representing an indicator of the future, places the patient in the foreground, the practitioner in the second place and the organization of the working place in the third place.*

Introduction:

During the practice of dental procedures, the operator is exposed to chronic trauma of small intensity which often goes unnoticed for a long time.

The cause of this chronic trauma is:

- working posture: seated or standing, correct or incorrect
- the quality of the delivery unit and the operator stool
- the presence or absence of the assistant
- the quality of the illumination
- the quality of visibility (magnification and working distance)
- psychological stress
- mechanical stress
- repeated efforts
- age

All these risk factors are actually Cumulative Traumatic Disorders (CTD) which have been described 200 years ago

- bad posture inherited during the years of training (dental school) from older doctors
- old delivery units that cannot be



Standing work position Incorrect / Correct

as being a “harvest of affections” which affect nerves, tendons, connective tissues, blood vessels, articulations, inter-vertebral disks, and muscles.

Ever since a new science has been developed which has been named ERGONOMY. It has been adapted to dentistry and the purpose of it is: the study of the best working positions and techniques, the increase in working efficiency and the prevention of CTD.

Like in all other domains there have been different currents and the one unanimously accepted is “human oriented” ergonomics.

In the current paper we have decided to conduct a study on the operator’s working position in 100 dental practices in Arad and Timis counties

This study has revealed the following:

- 30% of doctors still work only standing
- 35% of doctors only sit while working on the maxillary arch
- 25% of doctors work on both arches sitting down
- 5% of doctors work ergonomically correct, sitting down

The possible causes are:

- positioned right
- low quality delivery units
- reserve and difficulty when it comes to adopting a new working posture
- stress, haste
- low quality lighting conditions
- reduced work field visibility
- large volume of work condensed in a short time
- incorrect clinical techniques

Discussions:

All the operators involved in the study correlated with their age, showed multiple signs of CTD associated with daily activities in the dental office.

Conclusions:

A good knowledge of ergonomics as well as using magnification tools and good illumination can help reduce a good part of CTD associated with dental practices. This fact has implications on the whole operating team.

The most correct working position is a sitting position, accompanied by four-handed work.

Another aspect that can reduce CTD is an organized, planned ahead and stress-free

activity.



Sitting position correct / incorrect



Operating team work areas



Operator-Patient relation, operator in a balanced position, patient lying down

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¹West „Vasile Goldiş” University of Arad