

**PHYSIOPATHOLOGICAL ASPECTS OF THE INFLUENCE OF
ISOLATION ON HEALTH**

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Abstract: the negative influence of isolation or immobilization for a longer time over health is a reality accepted and confirmed with documents by the majority of specialists in health and not only in this field. I realized this presentation to emphasize some of the negative aspects, that triggers and favorites the installation of a pathogenic functional status, which may have destructive effect over health, of some means to limit them.

Introduction: this study is documented and realized after the isolation period that was established in Romania, but also in the other word countries, due to pandemic time of corona virus (covid 19) fig.1

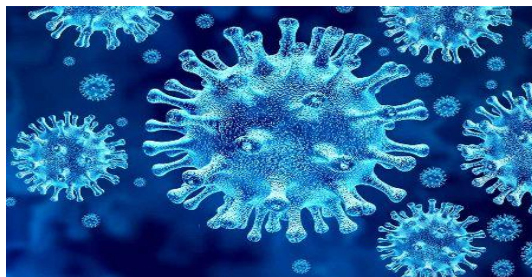


Fig.nr.1 Coronavirus (covid 19) [3]

The sudden cessation of all activities and the restrictions imposed to stay in the locations of own houses apartments of the majority of the active individuals it has a terrible impact on the psyche.

The first element to be taken into account is the negative psyche, uncertainty, stress, fear maintained by the audio-visual means and generally of all forms of information dissemination, creates a depressive image.

In the same context the effects of withdrawal from active life, creates a new model realized with the new imposed demands, the day does not have any more the same dimension, priorities are changed, the necessities and the wishes are reformulated.

All the limitation and prohibitions which apperead suddently, lead to frustrations and emotions that produces depression and anxiety, everybody on his own level. The negative effects begin with psychoemotional side and gradually break down on the important functions of the body. The one which enter the imbalance and favorites the onset of slow process of morphic-functional deconditioning is the neuronal-endocrine system, then follows the cardio-respiratory systems and the musculoskeletal system.[7]

Scope and objective:

The study s scope consist in the presentation of physiopathological aspects that disturb the functional status of the body during the isolation time, and also means to limit them.

Study objectives:

- the presentation of the factors thar change negatively the morphic-functional parameters due to limitation of the physical activities caused by isolation;
- the identification of the methods and the specific means to limit the mechanism of deconditioning and the increase of the effort capacity.

Material and method: previously I specified that the endocrine-neuronal system are first to notify the sudden change in the daily activity (DLA)

Through the reception system (afferent) realized from the multitude of sensory perceptions CNS (central nervous system) triggers adaptative mechanism for the new demands, request.

The endocrine system also comply to new demands and acts accordingly. In conclusion, the limitation of activities or even the widrawl of some of them, will lead to a new functional organization of the neuronal-endocrine system. (fig 2)

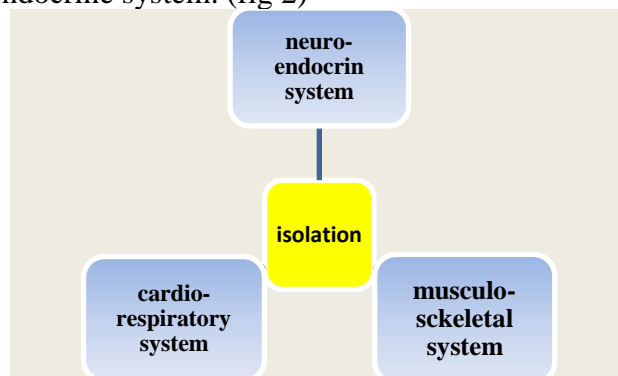


Fig.nr2 the systems who is afected of isolation

Referring to the disturbance processes of the neuronal-endocrine systems is required to specify also another factors that may influence negatively the good functionality of this one.

Environmental factors:

- the decrease of the sunshine, that favorites the fixing of „vitamin D”;
- the quality of the exhaled air, presents of O₂;
- temperature of the environmental habitat;
- artificial light used in realized activities;
- lack of natural air currents. [5; 6]

All the factors that were mentioned above may be managed through hygienic methods and of the organization of the daily activities, so that the quality of the exhaled air, temperature and the light of the habitat to be as close as possible of the environment.

The quality of the exhaled air along with the lack of the induced requests on the cardiac-respiratory systems allows a limited activity of this one that will lead the morphic-functional changes, and if the isolation period it is longer than suppose to be, those changes may be irreversible. The heart activity and the also of the lung, will be realized in conditions of insufficiency due to lack of request at the level of cardiac-respiratory systems. [4]

To represent on scheme the physiological model we will show you the scheme realized in fig.nr.3

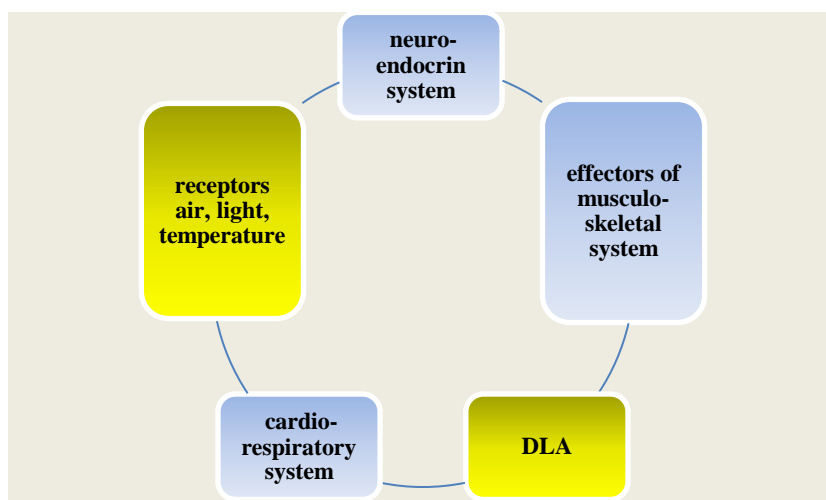


Fig.nr3 funcțional model

If I specifies some of the factors that disturb the body activity, it is imposible to not take into account one of the elements that induced and created enough stress on the body and on the mental in the state of isolation (quarantine, emergency, etc) and specific the use of the protective mask.

We are not saying that the protective mask does not have the importance and the protective role against harmful factors, but must be specified and the negative effects that produces on the body, if this one it will be used a longer period of time.

The first apparatus that enters into conflict and it is overloaded, it is respiratory system. Dyspnea, hyperventilation, hypoxia, hypercapnia, will determine pressure on the heart, that will lead and induce changes of hemodynamics with implications on the musculoskeletal system, talking about somatic-functionality.[1; 2; 8]

The musculoskeletal system, due to minimal induced requests, will enter into a process of slow deconditioning but with visible repercussions on the structures: bone osteoporosis; on the muscles, hypotony; cartilage, arthrosis, and also regarding the functionality a significant reduction of the effort capacity.

Results and discussions: To limit and conteract the harmful effects of the isolation and reduction of the daily activities performed outdoor, will count some of the elements that may help the good functionality of the body, and the maintenance of a optimal functional status.

A program of the analytical gymnastics realized in conditions as close to the environmental habitat. The program of exercises must be as varied as possible , it may be used abjects and tools, devices that may helps. The duration of the program it must not to exceed 45-50 min. the laoding degree and difficulty, must not induced fatigue, if it is not possible to be performed daily it is sufficiently 3 times a week it is indicated to be realized in the morning. The time spent I front of the TV or computer must be exchanged with ather activities (music, lectures, drawing, etc)

Conclusions:

- the sudden pass form activity to an inactivity period, has a terrible impact on the psyche of any individual;
- the effect of withdrawal from the active life, creates a new functional model, realized according to the new imposed demands;
- the quality of the exhaled air, next to the lack of induced request an the cardiac-respiratory systems, will lead to morphic-functional changes of it;

- the slow deconditioning of the neural-myo-arthro-kinetic systems, and regarding functionality a significant reduction of the effort capacity;
- the program of exercises realized consistent will induce positive, adaptative mechanism to the body;
- that will permit an effort capacity in the optimal physiological conditions and also the maintenance of health status.

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Aspecte fiziopatologice ale influenței stării de izolare asupra sănătății

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Cuvinte cheie: decondiționare, fiziopatogenie, sanogen.

Abstract: Influența negativă a stării de izolare sau imobilizare pentru o perioadă mai lungă de timp asupra stării de sănătate este o

realitate acceptată și documentată de majoritatea specialiștilor din domeniul medicinei și nu numai. Am realizat această prezentare pentru a scoate în evidență unele aspecte negative, care declanșează și favorizează instalarea unui status funcțional patogen, ce poate avea efecte distructive asupra stării de sănătate ireversibile dar și menționarea unor mijloace pentru limitarea acestora.