

PHYSICAL EXERCISING DURING THE PANDEMICS - A WAY OF MAINTAINING A HIGH TONUS LEVEL

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Abstract

This delicate time that we are traversing, which both unheard of and difficult to manage gave rise to numerous questions, controversies but also many options, plans, and programs for supporting healthy living but also to increase the quality of life, given the circumstances.

Being a novelty, each of us tried to find the best solutions which could bring well-being, comfort, good physical condition, and optimum health.

For those not able to adapt to this new form of existence, those who loitered behind a computer screen, the bad effects have also appeared: joint rigidity, muscle and back pain, extra weight, insomnia, cellulitis, all of them altering the well-being and comfort feelings.

Life should continue and we must adapt to cope with any challenge; that is why it is my opinion that we should implement new working principles and tools to use in the online environment, an adaptation of the contents and activities using the digital world.

Keywords: physical activity, health, immunity, blended learning, body mass index.

JEL Classification: I10; I20, I30

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1. Introduction

Prolonged periods of time having tight social distancing and isolation enforced have the potential of increasing or settling in sedentary behaviors and can also trigger certain diseases by decreasing immunity levels or additional health issues, where there are already things wrong.

This delicate time that we are traversing, which both unheard of and difficult to manage gave rise to numerous questions, controversies but also many options, plans, and programs for supporting healthy living but also to increase the quality of life, given the circumstances.

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What was before considered natural, a mad rush through the city, for example, has now turned into something weird, of uncertainty, of constant fear that targets our health and insecurities about tomorrow.

Great companies and institutions' stability was not however affected. Moreover, through determination and strength, they defied the precarious situation we were all in, whilst uncertainty and vulnerability of everyone else led to ruin and bankruptcy.

The university I'm currently a part of has continued its activity, partially online and partially in a physical manner so that the "wheels kept spinning", no difference is observed in the quality of the activity.

Even though the learning process was done a bit differently, we, professors, have adapted to the situation, trying to take advantage of the situation and give the students the knowledge needed to adapt to new requirements and possibilities. Students have also adapted by learning new methods and gaining skills as they went, annexing to the learning program, the digital skills necessary for comprehensive teaching.

Constant feedback between management, professors, students, and other logistical elements was the key to success. We learned together to overcome the situation, to outpace ourselves, and to function according to the new environment available. Concretely, in regards to our job and preoccupation with teaching, I can say that teachers always had the "novelty" element with them.

My feedback to the students has always been treated in a familiar, open, and 24 HR availability approach so that I was able to be up-to-date with any difficulties, needs, expectations, and results they obtained. Not having my usual quantitative or qualitative methods of evaluation, I had to reset to a different approach. I used as reference initial recordings given at the beginning of Term I and I compared them with recordings done at the end of the final term.

The exercises I had forwarded were various and were meant for both strengthening muscles and increasing joint mobility.

I proposed a set of exercises be work out at least twice a week, gauging their results both at the beginning and at the end. Out of the results obtained (nr. of repeats/30 sec.) I observed the repeat numbers going up.

What made me worry is the red signal which must be raised at a national level, in regards to an increased BMI level for young people of this age, possibly due to certain wrong food habits but also due to lack of constant physical activity for maintaining proper health and high tonus. Education here is required and also the increase of physical exercise classes, in order to form a vigorous, strong and young population.

According to the most recent Eurobarometer study, done by the European Commission in 2018, Romania is placed 2nd in terms of sedentary behavior. According to data, more than 63% of the population never does any type of physical activity.



In Romania, the absence of physical exercise is one of the causes for high mortality rates in COVID – 19 patients, according to Bogdan-Alexandru Hagi (a professor from the Physical Education and Sports University of Iasi).

The scientific article shows that mitochondria, cellular-level organs that are responsible for producing energy, are attacked by the SARS-CoV-2 virus, which can lead to severe forms of the disease, and practicing physical exercises (especially endurance ones), can improve their functionality. As a result, a healthy individual should not take on a sedentary lifestyle but practice physical exercises, moderately, even at home and it is recommended to have an instructor or specialist for the correct dosage [1]. Considering all these, field studies have shown that an excess' or high-intensity physical exercise can actually have the opposite effect, of slightly increasing disease risk as extra effort can lower immunity. [6].

Translational and clinical studies have shown that regular exercise performed at moderate intensity (duration of 45 to 60 minutes and 70% of VO2max), at least three times a week, is beneficial for the host's immune defense, especially in the elderly and people with chronic diseases[5]

What was a plus for this period, an aspect acclaimed by many students, was the removal of fast-food meals as the possibility of having cooked meals increased. Alongside the improvement of food, regularization of the eating schedule has happened. Most people, especially female students told me they lost weight by putting the order in their daily routines, changing their lifestyles as well: they ate healthy food and snacks at fixed hours, giving them the possibility of exercising, either as walks or at home. Results have appeared soon: many have lost weight, changed their lifestyles, and started feeling better, more rested, and vigorous. However, for those not able to adapt to this new form of existence, those who loitered behind a computer screen, the bad effects have also appeared: joint rigidity, muscle and back pain, extra weight, insomnia, cellulitis, all of them altering the well-being and comfort feelings.

Questioned students witnessed that this period gave them the possibility of resetting their lives and priorities. Having access and time to regular healthy meals, of open-air availability which they could use for doing exercises, maintaining optimum health and good physical condition, they were pleased to admit they improved the quality of life and self-esteem. These landmarks made me think about the possibility of maintaining this balanced and healthy lifestyle after the restart of the program and life that we had before the pandemics, bringing so many felt benefits.

2. Results

Out of the 438 students examined for their BMI at the start of 2020, in full pandemics situation, not being aware that this situation will last more than one year, I obtained the following initial results which have suffered slight modifications now, at the end of Term II.

I requested all students to send as much data online, data which I recorded, so that, out of the total of 438 students, I obtained a Body Mass Index (BMI)



between 15,62 – 37,09. BMI for female students: 15,65 – 32,39 and for male students: 16,81 – 37,09. Out of this sample, 134 were men and 304 women.

BMI women recorded in October 2020

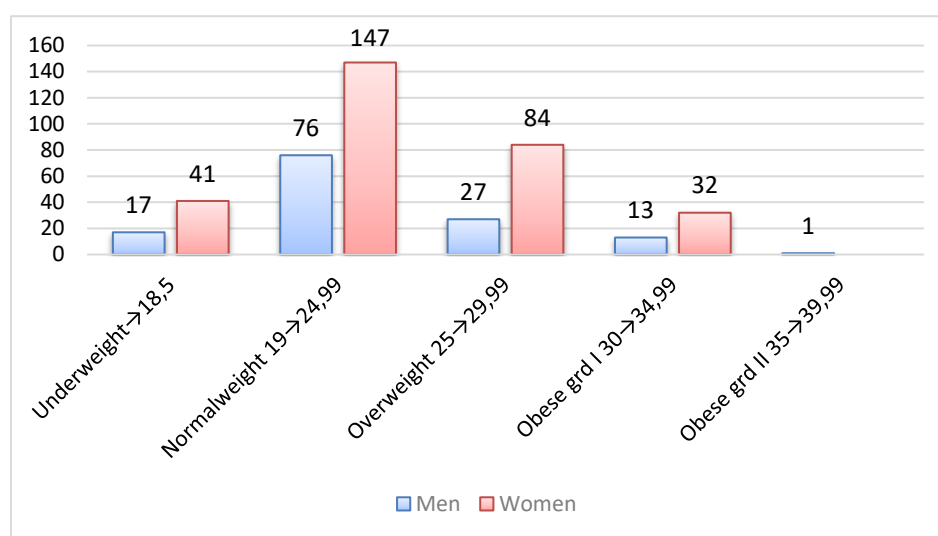
Table 1

BMI	WOMEN	% WOMEN
Underweight→18,5	41	13,48
Normal weight 19→24,99	147	48,35
Overweight 25→29,99	84	27,63
Obese grd I 30→34,99	32	10,52
Obese grd II 35→39,99	-	-

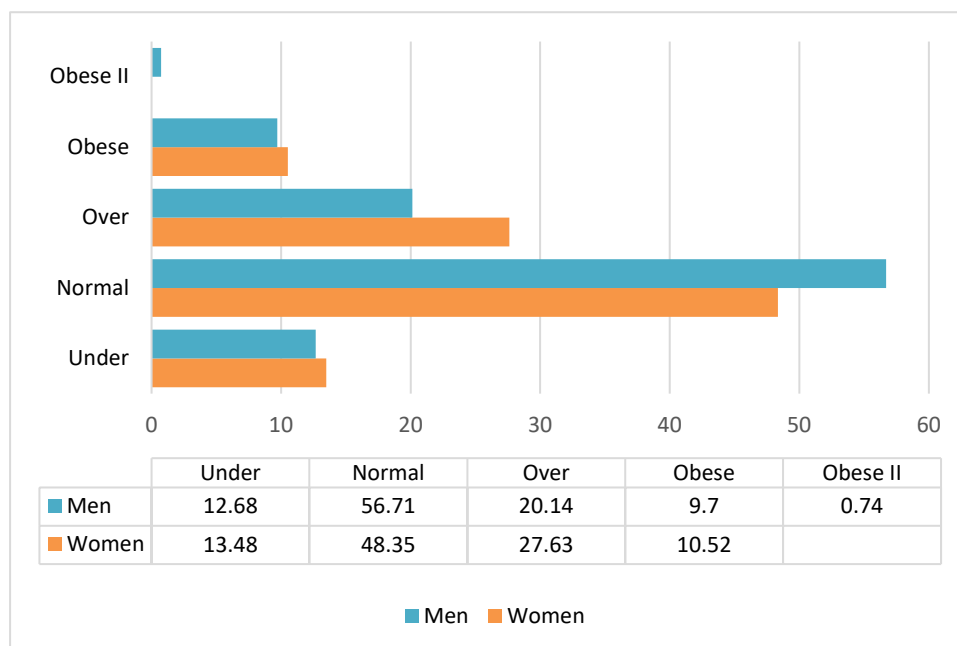
BMI men recorded in October 2020

Table 2

BMI	MEN	% MEN
Underweight→18,5	17	12,68
Normal Weight19→24,99	76	56,71
Overweight 25→29,99	27	20,14
Obese grd I 30→34,99	13	9,7
Obese grd II 35→39,99	1	0,74



Graphic 1. BMI distribution



Graphic 2. Women & men BMI percentage

3. Discussion

Out of the data available, we can observe that more than half of the students have a BMI above normal, which basically means that half of the students are overweight. A few are underweight and less than half are those considered having normal weight. This tendency is confirmed in other recent studies on similar samples [4].

A great proportion of the students have confirmed the exclusion of fast food and snacks from their diets, having 3 main meals and 2 snacks, resulting in weight loss and muscular re-shaping after doing physical exercises adapted to their individual training regimes but also due to their genetic and physical capabilities. It is found that people, who experienced negative behavioral changes, during pandemic confinement, also displayed an increase in BMI [3]

A large number of students told me that exercising during the university year was a source of inspiration, a raw model, a possibility to adapt, to overcome, and to start a new, healthier, and balanced life style.

The approach of students was different, just like that of normal people: some of them looked at the situation as an opportunity and the others viewed it as a tragedy, a situation in which lack of activity and an unhealthy schedule switched places with the previous, relatively balanced lifestyle.

I found encouraging the fact that, all major changes were evident in those having health issues and a high BMI (over 29 in girls and over 30 in boys). They



have treated this situation as an opportunity and a possibility at the same time to change their habits. They told me they got rid of fast food on a daily basis, substituting them for healthy food, as natural as they could, regular meals, and no quick snacking.

The decisive part, however, was the habit formation and the need for physical activity. Configured as mandatory homework and structured on time and type of exercises on training levels, they have later become programs which they gladly maintained, with no shortage of results: improvement of the physical condition witnessed by the scale and centimeter tool. What was imposed became useful and practical. They requested additional information and exercises, addressed for those interested. Following a gradually increasing difficulty program alongside a healthy diet, the participants had a visible BMI improvement. All those who obtained results and gained good tonus confirmed to me they had more energy, feel more confident, like their image in the mirror, and most importantly, that they can't wait to see the reaction of their friends upon this pandemic's end, to witness the same admiration received already from family and close ones.

What I observed throughout this period was that I also learned alongside my students to work together by exploiting materials and new conditions available. Life should continue and we must adapt to cope with any challenge; that is why it is my opinion that we should implement new working principles and tools to use in the online environment, an adaptation of the contents and activities using the digital world.

4. Conclusion

We can draw the conclusion that all existing content in school and university programs can be adapted to the current situation, requiring a more careful and thorough organization of the class itself. Moreover, lesson structure should be adapted to future conditions so that all SARS-CoV-2 infection prevention rules are followed. All the elements of a lesson can be adapted and re-designed so that they fulfill older requirements with new elements such as social distancing being inserted.

Physical activity is a must, an aspect proven and supported for thousands of years, but more needed than ever, a good physical condition, optimum health, boosted immunity, and an active lifestyle that can keep the virus at bay.

"There is a UK study which connects the COVID-19 hospitalization risk with lack of physical activity. As a result, the mere lack of activity can increase the risk, no matter the obesity, insulin resistance, diabetes, or cardiovascular diseases. Lack of activity means that mitochondria have a diminished capacity of opposing the severe forms of COVID-19. In Romania, along with other factors, sedentary life is a cause of increased mortality rate in those with COVID-19", according to the Hagi [2], quoted by AGERPRESS.



AGERPRES (the national press agency) is currently conducting, in partnership with the Romanian Youth and Sports Ministry and the Olympic Committee, an information campaign regarding the benefits of sports over the immunity system, on the background of the COVID-19 situation.

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