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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

Pain and stiffness resulting from an imposed sedentary lifestyle during lockdown, in the university community

OBJECTIVE To evaluate the impact of lockdown on pain and stiffness, associated with changes in daily habits, work routine and activities, in the academic community in Greece and Cyprus. **METHOD** A cross-sectional study was conducted with 308 university faculty members and students. Pain was measured with the short form McGill Pain Questionnaire (SF-MPQ), and pain intensity, stiffness, daily activities and work routine changes were assessed. **RESULTS** Daily habits and work routine changed during lockdown, with an increase in sedentary mode, and the changes were significantly related to pain ($p < 0.05$). Most participants reported stiffness, especially after prolonged sitting, which was reduced when they exercised, especially with walking or running ($p = 0.013$). Pain was significantly greater during lockdown ($p < 0.001$), primarily in the back and neck, but also in the form of headache/migraines. The respondents perceived their pain mainly as “tiring-exhausting”. Sitting for long hours significantly increased pain intensity (mean score=4.35, on a scale from 1 to 6). **CONCLUSIONS** Working from home indirectly forces university faculty members and students into a sedentary lifestyle. Online teaching and learning entail prolonged sitting in front of the computer, which is associated with bad sitting postures, disturbed sleep habits and long periods of physical inactivity. These are related to stiffness and pain, especially in the back, neck and head. As the pandemic continues and distance learning is expected to remain as an alternative mode in universities, even after the pandemic, emphasis should be given to the occupational health of people in the academic community. Intervention strategies are needed to prevent chronic musculoskeletal problems, with promotion of awareness of ergonomic training and ergonomic working arrangements at home, and encouragement of physical exercise of any type, especially walking or running.

Since the onset of the new viral infection caused by SARS-CoV-2 in late 2019 and particularly since the World Health Organization (WHO) declared a COVID-19 pandemic in March 2020, countries around the world, including Greece and Cyprus, have had to implement strict measures to reduce COVID-19 transmission and protect the most vulnerable.¹ One of the most observable changes was the shift of many employees, across various sectors, including academia, to working from home. Individuals from some occupational groups had little previous experience with remote working.² In Greece the universities first closed on 10th March 2020, while in Cyprus they were ordered to close on 13th March 2020. Both countries went into a first full lockdown on the 23rd of March. As the university

facilities were closed, educational institutions had to make a rapid switch from face-to-face to online methods of teaching and learning.

For many decades, the benefits of maintaining good physical health to reduce mortality from cardiac problems have been well documented. Exercise has been shown to be associated with the promotion of good physical health, while lack of exercise has been associated with metabolic disorders.^{3,4} The sedentary lifestyle has been related to increased mortality due to cardiovascular disease (CVD) and an increased likelihood of developing obesity and type 2 diabetes mellitus (DM), and physicians are describing “sitting as the new smoking”.⁵⁻⁷ Sedentary behavior has also been linked with reduced sleep quality and an increase in

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Πόνος και δυσκαμψία ως συνέπειες μιας επιβληθείσας καθιστικής ζωής κατά την περίοδο lockdown στην πανεπιστημιακή κοινότητα

Περίληψη στο τέλος του άρθρου

Key words

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pain in various sites, especially for office workers who sit for longer hours on work days.⁸⁻¹⁰

In studies performed during COVID-19 lockdown, people reported sitting for longer and experienced pain due to being in awkward positions for prolonged periods of time while working on their computers.^{11,12} In addition, for people with pre-existing health conditions, the lockdown had a negative impact on their health. For example, for people with osteoarthritis of the knee, lockdown resulted in a reduction in regular activities, leading to an increase in knee pain, and for people with chronic pain, reduced physical activity was associated with an increase in pain severity.^{13,14} Finally, working from home during lockdowns has been reported to have a negative effect on sleep habits.¹²

The development of the above health problems has often been associated with a chronic sedentary lifestyle, but it appeared necessary to investigate the direct effects of a period of lockdown, when such a lifestyle is imposed. As the pandemic continues worldwide, further lockdowns are always probable and it is likely that remote working and distance learning will remain as alternative modes worldwide, even after the pandemic. It thus becomes of special interest to examine the impact of the sedentary lifestyle on the academic community. The main purpose of this study was to examine changes in daily habits and physical activity during the first lockdown period in university communities in Cyprus and Greece, and to investigate how these changes related to the presence and intensity of pain and stiffness, and to make relevant recommendations for the future.

MATERIAL AND METHOD

Study design

A cross-sectional survey was conducted with university faculty and students in Cyprus and Greece. The study questionnaire was circulated online via university mailing lists, using a snowball sampling method. Data collection took place in the period of 7th May to 8th June 2020, which was 4 weeks into the university closures, and two weeks after lockdown was introduced. The study was approved by the National Bioethics Committee of Cyprus (Approval number: EEBK EP 2020.01.92). The potential participants were informed, in an introductory statement, about the purpose of the study and the European Data Protection Law. Completion and submission of the electronic questionnaire was considered to be informed consent.

Instruments

The study questionnaire included four sections:

- Demographic information

- Physical activities: 15 questions on physical activities (type, duration and frequency of exercise) and habits (sleep and work routine and hours spent resting or sitting), before and during the lockdown period
- General health and physical symptoms: 10 questions, covering stiffness and how it relates to physical function, presence and intensity of pain (on a scale of 0 to 10) in various body parts, and how it impacts on physical activities
- The short form McGill Pain Questionnaire (SF-MPQ), Greek version: The McGill Pain Questionnaire is a widely used multidimensional tool for assessing the pain experience. It was developed by Melzack in 1975, who later created the short form (SF-MPQ), which combines the properties of the standard MPQ with a shorter completion time.¹⁵ It is a valid, objective, and reliable instrument for the assessment of pain, that has been translated and adapted into more than 15 languages and cultures for a variety of patient populations,^{16,17} including the Greek version.¹⁸ The main part of the SF-MPQ consists of 15 descriptive adjectives of the pain sensation, the Pain Rating Index (PRI), 11 sensory and 4 affective items. Respondents self-rate the intensity level on a 4-point scale (0=none, 1=mild, 2=moderate, 3=severe). The Sensory Pain Rating Index score (S-PRI) and the Affective Pain Rating Index score (A-PRI) are calculated by adding the sensory and affective intensity items, respectively. The Total Pain Rating Index (T-PRI) is the sum of all 15 intensity items. The scale also includes the Present Pain Index (PPI), a 6-point evaluative scale (0=no pain, 1=mild, 2=discomforting, 3=distressing, 4=horrible, 5=excruciating). Finally, a Visual Analogue Scale (VAS) was used to describe the average pain intensity (0=no pain to 100=worst possible pain), specifically "VAS-last week" (i.e., during lockdown) and "VAS-3 months before" (i.e., before lockdown).

Statistical analysis

Descriptive statistics were obtained for all variables of interest. Normality tests (Kolmogorov-Smirnov) examined the distribution of numerical scales. Non-normality was indicated for all variables and thus non-parametric tests for identifying significant differences were implemented, including Wilcoxon signed ranks tests, Chi-square tests of independence and Kendall's W test. Spearman's Rho coefficients were calculated to examine significant correlations between scales. Reliability analysis included Cronbach's alpha, alpha if item was deleted, and item-to-total correlations. All the analyses were performed using the Statistical Package for Social Sciences (SPSS), version 25.0.

RESULTS

The final sample included 308 participants, of whom 217 were university students (70%) and 91 university faculty (30%); 105 were males (34%) and 203 females (66%). Their average age was 28.8±11.06 years, ranging from 18 to 69

years. During lockdown, 178 participants (58%) were in Cyprus, and 130 (41%) were in Greece.

Sleeping and sitting habits

Significant changes in sleeping and sitting habits during lockdown were identified (all $p < 0.001$ from Wilcoxon signed rank tests). Firstly, the participants reported that they spent more hours lying down during lockdown than before. For example, 30% would lie down for more than 10 hours during lockdown, compared with only 6% before lockdown. In addition, people slept more during lockdown; there was a dramatic increase (from 19% to 42%) in the percentage of people sleeping more than 8 hours. The sleeping schedule was also disrupted, with participants sleeping later (46% slept after 1.00 am during lockdown, compared with only 18% before lockdown) and also waking up later (5% woke up after 11.00 am, before lockdown, as

opposed to 23% during lockdown). Participants reported sitting for more hours during the lockdown; for example, there was a decrease in sitting for less than 6 hours (from 30% to 9%) and an increase in sitting more than 12 hours per day (from 13% to 31%). Finally, more sleeping problems due to pain were reported during lockdown; specifically, a shift from 8% to 16% for having sleeping problems due to pain more than once a week.

Pain and its relationship with changes in work routine

The feeling of pain in different body areas during lockdown was assessed. The relationship between pain and changes in work routine was explored by Pearson Chi-square tests (tab. 1). Almost half of the respondents reported having pain, with back pain being the most frequent site (69%), followed by neck pain (50%). The vast majority (79%) reported a change in work routine, including sitting more

Table 1. Pain and its relationship with changes in work routine in university faculty members and students during the lockdown (n=308).

Variables	n (%)	Chi-square (p)
<i>Feel pain in any area of your body?</i>		
Yes	143 (46.4)	
No	165 (53.6)	
<i>In which body part do you feel pain? (n=143) (multiple answers allowed)</i>		
Back	98 (68.5)	
Neck	71 (49.7)	
Headache/migraine	61 (42.7)	
Knee	47 (32.9)	
Shoulder	39 (27.3)	
Wrist	26 (18.2)	
<i>Change of work routine during lockdown?</i>		
Yes	244 (79.2)	
No	64 (20.8)	
<i>If, yes, in what way did work routine change? (multiple answers)</i>		
	(n=232)	
Work more hours	87 (37.5)	
Not having breaks very often	52 (22.4)	
Work fewer hours	76 (32.8)	
Having breaks very often	66 (28.4)	
Sitting more during work	111 (47.8)	
Changes in work routine – pain in any body area		10.88 (0.001)**
Changes in work routine – back pain		5.71 (0.017)*
Changes in work routine – neck pain		3.68 (0.05)*
Changes in work routine – knee pain		9.20 (0.002)**
Changes in work routine – headache/migraine		5.53 (0.019)*

* Significant at 5% level, ** Significant at 1% level

hours during work, and a change in hours of work, number of breaks, etc. Respondents with a changed work routine had higher prevalence of pain; 125 (87%) of those who reported pain also had a change in their work routine. A significant association was demonstrated between work routine change and pain in specific body areas; 57 (89%) of those with back pain, 45 (95%) of those with knee pain, 62 (87%) of those with neck pain and 55 (90%) of those with headache/migraine, also reported a change in their work routine.

It is of note that all study participants reported a reduction in body energy during lockdown; 129 (42%) reported a high degree and 68 (22%) a moderate degree of body energy reduction, a significant association was observed between headache/migraine and a high degree of body energy reduction ($p=0.004$).

Physical exercise and activities before and during lockdown

Due to the government-imposed restrictions, the activities and types of physical exercise were different before and during lockdown. More participants tried to do some form of exercise every day (20% reported not doing any exercise before, compared with 10% during lockdown), while the number exercising every day increased, from 12% to 18%, but the changes were not statistically significant. Since the gyms were closed and organized sports/team trainings were not permitted, respondents who had participated in these activities before lockdown, tried alternative methods of exercising, such as "exercise at home with video", "doing known exercises at home" or "exercise at home with fitness equipment". For the types of activity that were common both before and during lockdown (e.g., walking/running, gardening), although there was a slight increase during lockdown, the differences were not significant (Wilcoxon's signed rank tests, $p>0.05$). Regarding the reasons for exercising, there was a slight increase during lockdown of people who wanted to "relax" or "control their body weight", as opposed to "improving physical fitness" or "health improvement", which were more prevalent before the lockdown.

Stiffness and its relationship with various activities and with pain

Stiffness (of any level) was experienced by 53% of respondents. Most reported feeling stiffness after prolonged sitting, and it was significantly less in participants who went walking or running during the lockdown ($p<0.001$).

For example, 94 (66%) of the participants who did not feel stiffness reported walking/running, while 10 (67%) of the participants who reported a high level of stiffness did not walk/run for exercise. All the other activities (exercise at home with a specialist or videos, exercise at home with own exercise regime, exercise at home with fitness equipment, gardening) did not lower stiffness significantly ($p>0.05$). Higher levels of stiffness were significantly related to pain; 36 (80%) of the participants who felt moderate or a lot of stiffness, also reported some type of pain, while 117 (81%) who did not feel stiffness, did not report any type of pain. Pain was also related to experiencing stiffness; when walking or standing up after a sitting position; 81% of those that felt stiffness on waking up, 72% of those that felt stiffness on standing up from relaxing on a couch, and 74% of those that felt stiffness on standing up from sitting in a chair, also reported pain. Chi-square testing showed that stiffness was significantly associated with pain in specific body areas, namely shoulder, neck, back, pelvis, knee, headache/migraine (all $p<0.001$). Pain in these areas was also significantly related to stiffness after specific actions, including waking up, and standing up from lying on a couch or sitting (all $p<0.05$) (tab. 2).

McGill Pain Questionnaire

The SF-MPQ questionnaire was completed by those participants who reported experiencing pain during the lockdown ($n=143$). Cronbach's alpha for the 15-item PRI was 0.815, and the alpha did not increase if any item was deleted and correlations between the items and the total scale were high. The above results show the reliability and internal consistency of PRI in the present study. Similarly, Cronbach's alpha for the two PRI subscales was high (0.747 for S-PRI and 0.791 for A-PRI).

The highest mean score was for the item describing pain as "tiring-exhausting" ($M=1.27$), followed by "cramping" ($M=1.15$) and "heavy" ($M=1.12$), while "aching" was the description selected by most respondents (60%). Table 3 shows the scores on all the parts of the SF-MPQ.

Normality tests for SF-MPQ indicated non-normality ($p<5\%$) and therefore non-parametric tests were implemented. Kendall's W test ($W=0.094$, $p<0.001$) showed that pain according to VAS in the last week was significantly higher ($M=16.40$) than 3 months earlier ($M=16.02$) ($p<0.05$), meaning that pain increased significantly during lockdown. Correlation between the scores on the various SF-MPQ scales (T-PRI, S-PRI, A-PRI) and VAS and PPI was strongly significant, i.e., high intensity of pain on one scale was associated with high scores on the other scales.

Table 2. Stiffness and its relationship with activities and pain in university faculty members and students during lockdown (n=308).

Variables	n	%	Chi-square (p)
<i>Do you feel stiffness?</i>			
Yes, a lot	15	4.9	
Yes, moderate	30	9.7	
Yes, a little	119	38.6	
No, not at all	144	46.8	
<i>If yes, after which action do you feel stiffness? (n=164) (multiple answers allowed)</i>			
After waking up	63	38.4	
Standing up from couch after relaxing	67	40.8	
Standing up from chair after reading/working	108	65.9	
Walking/running – feeling less stiffness			10.852 (p=0.013)*
Feeling stiffness – feeling pain			87.049 (p<0.001)**
Feeling stiffness after waking up – feeling pain			37.953 (p<0.001)**
Feeling stiffness after standing up from couch – feeling pain			21.885 (p<0.001)**
Feeling stiffness after sitting position – feeling pain			51.106 (p<0.001)**

* Significant at 5% level, **Significant at 1% level

Table 3. Responses to the short-form McGill Pain Questionnaire (SF-MPQ) (n=143).

Variable	n (%)	Mean (SD)
<i>Sensory-Pain Rating Index (S-PRI)</i>		
Throbbing	81 (56.6)	0.70 (1.05)
Shooting	71 (49.7)	0.73 (1.03)
Stabbing	71 (49.7)	0.62 (0.99)
Sharp	78 (54.5)	1.03 (1.12)
Cramping	85 (59.4)	1.15 (1.01)
Gnawing	70 (49.0)	0.80 (1.17)
Hot-burning	74 (51.7)	0.58 (0.94)
Aching	86 (60.1)	0.99 (1.03)
Heavy	81 (56.6)	1.12 (1.08)
Tender	71 (49.7)	0.63 (0.94)
Splitting	74 (51.7)	0.95 (1.18)
<i>Affective-Pain Rating Index (A-PRI)</i>		
Tiring-exhausting	83 (58.0)	1.27 (1.04)
Sickening	70 (49.0)	0.59 (0.97)
Fearful	66 (46.2)	0.32 (0.77)
Punishing-Cruel	71 (49.7)	0.41 (0.85)
<i>Total Pain Rating Index (T-PRI)</i>		
		9.45 (7.54)
<i>Sensory Pain Rating Index (S-PRI)</i>		
		7.24 (5.72)
<i>Affective Pain Rating Index (A-PRI)</i>		
		2.20 (2.77)
<i>Visual Analogue Scale (VAS) – last week</i>		
		16.64 (24.83)
<i>VAS – 3 months before</i>		
		16.33 (26.45)
<i>Present Pain Index (PPI)</i>		
		1.50 (0.97)

SD: Standard deviation

Relationship between SF-MPQ scales and pain measurement for specific body areas

Participants were asked to assess their pain in specific body areas, on a scale from 0 to 10, and the correlations between these pain measurements and the SF-MPQ scales were calculated, using Spearman's Rho correlation coefficients. The highest mean score for pain was in the back (M=2.50), followed by headache/migraine (M=2.31) and neck pain (M=2.29). The mean pain scores were fairly low for all body parts, and in some areas (e.g., shoulder, M=0.97, wrist M=0.77) indicated that most participants reported zero pain in that area.

All correlations between pain in body parts and scores on the SF-MPQ scales were positive and most were significant, specifically neck, back, knee, and headache/migraine showing that if a person had a high level of pain in the specific body part, then he/she also reported high overall pain intensity on the SF-MPQ scales.

Relationship between pain intensity after daily activities and SF-MPQ

The participants reported on a scale from 1 to 6 (1=no pain and 6=big increase in pain), how specific everyday activities affected pain intensity. It was examined how pain due to these activities was related to pain intensity as measured by the SF-MPQ scales (tab. 4).

Significant positive correlations indicated that increased pain when doing a specific activity was associated with

Table 4. Pain intensity due to daily activities (scale 1–6) in university faculty members and students, and correlation with the Pain Rating Index (PRI) scales of the short-form McGill Pain Questionnaire (SF-MPQ) (n=143).

Activity	Mean pain intensity	Standard deviation	Sensory PRI score	Affective PRI score	Total PRI score
Sitting on chair	4.35	1.39	0.158 (p=0.237)	0.278* (p=0.031)	0.189 (p=0.164)
Standing	3.99	1.61	0.478** (p<0.001)	0.439** (p<0.001)	0.546** (p<0.001)
Household work	4.15	1.40	0.229 (p=0.087)	0.150 (p=0.258)	0.172 (p=0.209)
Indoor exercise	3.32	1.56	0.217 (p=0.127)	0.106 (p=0.455)	0.139 (p=0.341)
Outdoor exercise	3.36	1.40	0.301* (p=0.029)	0.024 (p=0.860)	0.159 (p=0.264)

* Significant correlation at 5% level, ** Significant correlation at 1% level

high pain intensity on the SF-MPQ scales. Activities which seem most affected pain in general were “standing” and “sitting on a chair”.

DISCUSSION

To our knowledge this is the first study to investigate the impact of lockdown on the physical activities, daily habits and pain in university communities in Cyprus and Greece, and how the changes in activities and work routine relate to pain and stiffness.

First, regarding physical activities, university faculty and students had to change the type of exercise performed during the lockdown, as gyms, health centres and sports establishments were closed. No significant difference in the number of people exercising before and during lockdown was found. Another study conducted in Cyprus similarly reported no significant increase in physical activity among adults, in contrast to a study in Spain, where an increase in physical activity was reported, and a study in Greece, where inactivity increased significantly during the lockdown.^{19–21}

Second, the vast majority of participants experienced a change in their work routine, mainly working for more hours, having fewer breaks and sitting more during work. Around 68% of participants were sitting for more than 8 hours per day during lockdown, compared with 40% before. This figure is higher than that reported in a study among adults in the United States of America (USA).¹¹ In addition, an increase in the hours spent lying down was reported, with 14% lying down for more than half of the day. Participants also slept more hours during the lockdown (42% slept for more than 8 hours per day) and, overall, they went to bed later and woke up later. These results reflect the lack of options for indoor or outdoor physical activities and the general inactivity and slower pace of life as an effect of lockdown. For university faculty and students, the major change was forced abstinence from classes in classrooms

or face-to-face meetings. Sleep problems due to pain increased, in agreement with previous documentation of an association between late bed time and pain in the lower back, and between increased hours of sleep and pain.^{22,23}

More than half of the sample reported feeling stiffness, 66% after prolonged sitting. Stiffness was related to pain after certain activities, including waking up, standing up from the couch and standing up after sitting. A pre-pandemic study on university students, similarly documented discomfort and pain related to prolonged sitting and working on the computer.²⁴

Pain was mainly located in the back (almost half of participants), a finding similar to that of a recent study on schoolteachers in Brazil and a study in an adult population,^{25,26} and the neck area was second in terms of pain prevalence. In terms of pain intensity, back pain showed the highest mean level, followed by headache/migraine and neck pain. Pain was correlated with daily habits and work routine. In studies on patients, also, pain intensity was associated with habits such as prolonged sitting and lack of physical activity.^{14,26} In the present, non-patient, study, the mean pain intensity was low to moderate, but it was significantly higher during lockdown than three months before lockdown. Longer or repeated periods of lockdown could potentially result in even further increase in pain intensity.

Most respondents used the affective descriptor “tiring – exhausting”, to portray their perceived feeling of pain, and the sensory descriptors “cramping”, “heavy” and “aching” for the sensation felt as a result of the pain. Although an affective descriptor was preferred to describe their highest pain intensity, the total sensory PRI was of higher intensity compared to the total affective PRI. It is of note that high scores on one SF-MPQ scale were correlated with high scores on another. This shows that pain has both affective and sensory dimensions, and it indicates the validity of all the pain measurements in the present study.

The study is not without limitations. For example, it was conducted online and was self-completed. Although this data collection method was the norm in many cross-sectional studies during the pandemic, it could lead to response bias. Nevertheless, the study has shed light on the effects of an imposed sedentary lifestyle on university faculty and students and their exposure to increased physical health risks, which require attention. The pandemic continues worldwide, with countries going in and out of “mini” or full lockdowns and restrictions, and it will continue for an indefinite time. Working from home continues to be the preferred mode for many corporations, while distance learning has been established as an approved alternative mode for universities worldwide, and will most probably remain as an option even after the end of the pandemic. The sedentary lifestyle is, therefore, expected to prevail within the academic community. Several studies before the pandemic showed that long hours of computer use, with short breaks, were associated with musculoskeletal pain in all body areas, especially from the stress in soft tissues, intervertebral discs and nerves caused by the static postures.²⁷ The present study has provided indications that higher educational institutions should nowadays

focus on “occupational health”. Health professionals need to intervene to inform and train the academic community, which, being of a high educational level should be more open and receptive, about the management of physical health. On the one hand, physical exercise should be promoted.^{1,28} This could be of moderate intensity and, based on our results, could include running or walking. On the other hand, the findings of the study emphasize the need for training programs that would improve the awareness of faculty and students about the creation of good ergonomic working arrangements for computer workstations at home, healthy sitting postures and a positive attitude towards ergonomic exercises. Strategies with planned and feasible interventions should aim to counterbalance the negative impact of inactivity on stiffness and pain, in order to prevent chronic consequences, which would inevitably lead to an increased financial burden for health systems.

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ΠΕΡΙΛΗΨΗ

Πόνος και δυσκαμψία ως συνέπειες μιας επιβληθείσας καθιστικής ζωής κατά την περίοδο του lockdown στην πανεπιστημιακή κοινότητα

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ΣΚΟΠΟΣ Η αξιολόγηση των επιπτώσεων του “lockdown” στον πόνο και στη δυσκαμψία, σε σχέση και με τις αλλαγές στις καθημερινές συνήθειες, στην εργασιακή ρουτίνα και στις δραστηριότητες, στην ακαδημαϊκή κοινότητα σε Ελλάδα και Κύπρο. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Διενεργήθηκε μια συγχρονική μελέτη. Συμμετείχε ένα σύνολο 308 πανεπιστημιακών και φοιτητών. Ο πόνος μετρήθηκε με το Short Form McGill Pain Questionnaire. Επί πλέον, εξετάστηκαν η ένταση του πόνου, η δυσκαμψία, οι καθημερινές δραστηριότητες και οι αλλαγές στην εργασιακή ρουτίνα. Διάφοροι στατιστικοί έλεγχοι (κυρίως μη παραμετρικοί) χρησιμοποιήθηκαν για την ανάλυση των δεδομένων. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Οι καθημερινές συνήθειες και η εργασιακή ρουτίνα άλλαξαν κατά τη διάρκεια του “lockdown”, με τις αλλαγές να σχετίζονται στατιστικώς σημαντικά με τον πόνο ($p < 0,05$). Οι περισσότεροι συμμετέχοντες ανέφεραν δυσκαμψία, ειδικά μετά από πολλές ώρες στην καθιστή στάση, η οποία μειωνόταν όταν έκαναν περπάτημα ή τρέξιμο ($p = 0,013$). Ο πόνος ήταν στατιστικά μεγαλύτερος κατά τη διάρκεια των “lockdown” ($p < 0,001$), κυρίως στη μέση και στον αυχένα, όπως και σε μορφή πονοκεφάλου/ημικρανίας. Οι ερωτώμενοι περιέγραψαν τον πόνο περισσότερο ως «κουραστικό-εξαντλητικό». Μετά από πολλές ώρες σε καθιστή στάση επιδεινωνόταν σημαντικά η ένταση του πόνου ($M = 4,35$, σε κλίμακα από 1–6). Όλα τα στατιστικώς σημαντικά αποτελέσματα περιγράφονται και συζητώνται. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Η εργασία από το σπίτι έμμεσα επιβάλλει στους πανεπιστημιακούς και στους φοιτητές έναν καθιστικό τρόπο ζωής. Η εξ αποστάσεως εκπαίδευση συνεπάγεται παρατεταμένες ώρες μπροστά από τον υπολογιστή, λανθασμένες στάσεις

καθίσματος, αλλαγή συνηθειών ύπνου και μεγάλες περιόδους αδράνειας. Τα πιο πάνω σχετίζονται με δυσκαμψία και αυξημένο πόνο, ιδιαίτερα στη μέση, στον αυχένα και στο κεφάλι. Όσο η πανδημία συνεχίζεται και η εξ αποστάσεως εκπαίδευση αναμένεται να παραμείνει ως εναλλακτική μέθοδος στα πανεπιστήμια, ακόμη και μετά το τέλος της πανδημίας, πρέπει να δοθεί έμφαση στην εργασιακή υγεία των ατόμων στην ακαδημαϊκή κοινότητα. Παρεμβατικές στρατηγικές είναι αναγκαίες για την πρόληψη χρόνιων μυοσκελετικών προβλημάτων, με ενημέρωση για εργονομική εκπαίδευση/εργονομικές ρυθμίσεις στον εργασιακό χώρο κατ' οίκον και ενθάρρυνση σωματικής άσκησης οποιουδήποτε τύπου, ιδιαίτερα περπάτημα ή τρέξιμο.

Λέξεις ευρητήριο: Δυσκαμψία, Καθημερινές συνήθειες, Καθιστική ζωή, Lockdown, Πόνος

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