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REVIEW

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Working from home during the COVID-19 pandemic, its effects on health, and recommendations: The pandemic and beyond

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Abstract

Purpose: We provide an overview of how to work from home during the coronavirus disease 2019 (COVID-19) pandemic and what measures should be taken to minimize the negative effects of working from during this time.

Conclusions: The COVID-19 pandemic has forced an adaptation process for the whole world and working life. One of the most adaptation measures is working from home. Working from home comes with challenges and concerns but it also has favorable aspects.

Practice Implications: It is crucial to develop and implement best practices for working from home to maintain a good level of productivity, achieve the right level of work and life balance and maintain a good level of physical and mental health.

KEYWORDS

COVID-19, mental health, physical health, working from home

1 | INTRODUCTION

Until the coronavirus disease 2019 (COVID-19) pandemic is under control (and its subsequent waves are over), millions of people from all over the world have entered into an adaptation process and are following physical distancing requirements, stay home calls and lockdown orders to minimize contact with others, reduce the spread of the disease and flatten the curve.[1] Lockdown orders or stay home calls cover at least one-third of the global population[2] and it has been the case for most Americans.[3] The COVID-19 pandemic in general and especially these lockdowns, stay home calls and physical distancing have had a significant impact on our daily lives, from work to traveling, from schools to social life and more. Furthermore, the pandemic has affected the physical and mental health of many people. The results of a recent study done during the pandemic revealed that 37% of individuals experienced posttraumatic stress, 20.8% experienced anxiety, 17.3% had depression symptoms, 7.3% had sleep problems, 21.8% experienced a high level of perceived stress, and 22.9% had adjustment disorder, and one of the biggest challenges of the pandemic adaptation process has been the switch to working from home.[4]

Working from home has been one of the most important and visible changes during the pandemic, it has gained even more significance, and more people have started (or had to start) working from due to lock-downs orders and stay home calls. Even before the pandemic, working from home was getting traction.[5] For example, some JetBlue employees had been working from home since early 2000s.[6] In a research conducted in the United States[7] and several European countries, it was stated that 40% of all work activities could be done from home.[8,9] Another study revealed that the annual rate of working from home in the United States increased to 37% in 2015 while it was 9% in 1995.[10] Also, 7% of employees in the United States have an allowance for "flexible workplace" or telecommuting access. However, these employees are mostly managers, white-collar staff, and high-paid professionals.[11] In Europe, 5.2% of people aged 15–64 regularly worked from home in 2018, and this rate was higher in some of the countries, for example, 14% in the Netherlands, 13.3% in Finland, 11% in Luxembourg, 10% in Austria.[12,13]

The pandemic has caused 46% of the businesses in the United States to implement telecommuting policies as of February 2020.[14] In another example, Canadian Bank of Montreal has announced that 80% of its employees can and will most likely continue working from home even after the pandemic.[15] Some occupational groups can easily adapt to working from home, whereas it is a much more difficult experience for others. For example, while academics and interpreters adapt more easily

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to working from home, other groups, such as teachers, have had difficulty working from home. This could be partly explained by the nature of occupation (e.g., individual vs. need to work with others in real-time), previous experiences, the suitability of home for work (e.g., physical space availability, caregiver responsibilities, Internet connection accessibility) and other reasons.[16,17] A recent study shows that the rate of working from home is lower in developing countries (22%) compared to developed ones (37%).[18] This suggests that financial conditions and challenges of work environment can be two critical interrelated factors. While one always tries to adapt their lifestyles to their work, it is not possible to do this most of the time. Although mobile and Internet-based technologies are gradually diminishing the importance of physical work requirements, conditions and facilities of the work environments are still critical. As long as home can provide a suitable and feasible working environment, many people may choose working from home option if or when available. And as mentioned above working from home was already getting popular before the pandemic and now with the pandemic it has become even more popular and sometimes necessary in most of the world, in developed and developing countries. Before the pandemic, some jobs' delivery was never considered to be possible or feasible as an online or remote option, such as doctor appointments via phone/Internet in Canada. However, now it seems telehealth is the new normal for Canada and many other countries and it is here to stay even after the pandemic.

Like anything else, working from home is a tradeoff and it has disadvantages as well as advantages.[19]

The positive aspects of working from home include freedom of work schedule,[20] more time for and with family and increased leisure time,[21] lower stress and improved efficiency,[22] and cost and time savings on commuting to work.[20] Besides all the benefits and advantages of working from home, there are adverse factors that can lead to loss of control and reduced productivity while working from home.[23] Such factors are managing work and family obligations in the same environment and at the same time,[24] having a nervous and tense mood due to prolonged stay at home while working, spending too much time at home, risk of obesity (due to easy access and excessive eating/drinking), lack of working transparency, difficulty in accessing relevant technology and important documents from home securely, difficulty in controlling the balance between work and life, difficulty in communication and coordination, social isolation, and disruption of children's educational processes due to schools and nurseries' being closed during the pandemic.[25,26]

Minimizing the negative effects of working from home and generating solutions to decrease adverse factors associated with the disadvantages of working from home are critical for maintaining the productivity and well-being of individuals at all times but especially during the COVID-19 pandemic. Adverse effects of the COVID-19 pandemic has been an active area of research in countries such as Italy and Spain, where the effects of the pandemic have been severe, and in China where the disease first appeared.[4,27,28] In this article, we aim to provide an overview of how to work from home during the COVID-19 pandemic, and what measures should be taken to minimize the negative effects of working from during the pandemic.

2 | WORKING FROM HOME DURING THE PANDEMIC: BENEFITS, CHALLENGES, AND RECOMMENDATIONS

Working from home is not the most common practice since the usual working environment can be an office space, a factory, a school, an airport, a restaurant or somewhere else but home. Although working from home has many benefits (e.g., more flexibility, less commute, ability to continue to work during a pandemic), it also has its challenges (e.g., life and work balance, need to set up a proper workplace at home, caregiving responsibilities, mental well-being, risk of obesity), especially during the COVID-19 pandemic. How can we balance the benefits and disadvantages to have a better, healthier and more productive working experience for working from home during the COVID-19 pandemic?

2.1 | Working environment, ergonomics, and recommended equipment

Previous research shows that there is a strong relationship between a well-ergonomically arranged working environment and working efficiency and health,[29,30] which can also be considered as non-deteriorating health and job satisfaction.[29] An ergonomic working environment and well-arranged physical conditions, such as appropriate temperature and low noise levels, increase employee job satisfaction and productivity.[31] It is important to use the right and ergonomic equipment, tools, and methods to prevent possible fatigue or long-term injuries in the working environment.[32] One important factor for preventing health problems arising from the working environment is to ensure the correct posture during work.[33] Occupational musculoskeletal disorders are leading injuries arising from improper ergonomic working environments, and such disorders can have serious adverse effects on the performance and well-being of individuals.[34,35] These disorders can affect the shoulder, neck, and upper extremities.[36,37] In addition, such disorders are traumas that do not suddenly emerge but develop gradually, and while they can disappear with short rests in early stages, it may not be possible to get rid of them in later stages even with long rests.[30] Therefore, for staying healthy and productive, it is crucial to adopt an agronomical approach while setting up the working space at home and working from home.

The most important piece of the working equipment is the ones which we spend considerable time while working. Furthermore, it may be useful to create the working environment at home as similar to the environment at the workplace as possible and to make sure that working materials, especially computers, are placed close to eye level.[36,38] In particular, one needs to pay attention to correctly place a computer/laptop screen to have a constant balance between head/neck and hand/wrist postures.[38] Laptops are lightweight, portable, and convenient. Besides these advantages, laptops can have cause serious health problems by allowing users to sit in poor posture positions with their compact design with an integrated display and keyboard. For example, if the screen is at the correct height, then the keyboard position becomes heightened, and when the keyboard is placed correctly, then the screen is too low. Another important component of working home is the sitting arrangement. For example, working or sitting on soft tissue areas, such as a sofa or bed, for a long-time during working

can cause individuals to feel tension and pain. An ergonomic, adjustable work chair and study desk are essential parts of office work and important for health. Pillows, towels, or cushions can be used while sitting to adjust the arms position and raise the elbow height to the tabletop level, and this would also help reducing the pressure on the hip and waist. It is also important to adjust the seat height to create a proper hip angle and achieve a "flat feet" position. If needed, proper equipment should be used to raise feet. Some new generation of desks allow height adjustment and this opens for new and more dynamic posture change possibilities during work.[38,39]

2.2 | Sleep, rest, and exercise

There is a need for adequate sleep and rest to resume working and maintaining a healthy body.[40] Sleep plays a crucial role in the physical and mental health and well-being, and there is no better daily rest than a good night's sleep.[41] In addition, small breaks during the working day are needed to reduce fatigue, stress and tension occurred while sitting and working.[42] These will also increase productivity and affect the mood of the person positively.[42] One big disadvantage of working from home, especially with stay home calls or lockdown orders during the pandemic, is the reduction of movements of the individuals. For this reason, regular exercise becomes even more important than before during this pandemic. Regular exercise keeps the body fit and help keeping it healthy.[43] Furthermore, regular exercise helps the person to get better sleep overnight and wake-up well rested and clearheaded.[44] At the same time, doing regular exercise helps to reduce fatigue and tension of muscles makes it easier to get ready to work.[44,45] Although many people have a substantial awareness of the importance of exercise in most countries, most people do not exercise.[46] Studies show that the percentage of those who do sufficient physical activity is low.[46,47] Therefore, family members and colleagues should encourage each other to have a sufficient sleep, to do regular exercise and to take breaks during the workday for increased productivity, improved physical health and better mental well-being, especially during this COVID-19 pandemic.

2.3 | Work and life balance

Getting the right work and life balance is crucial and challenging not only during a pandemic but also at regular times. The COVID-19 pandemic made it extremely difficult to attain and maintain the right level of work and life balance by forcing many employees to work from home while maintaining their family and other commitments at the same time. One challenging aspect of working from home is to separate and balance work and personal time. This is especially challenging for working parents who care for their children at the same time. These families make a significant portion of the population. In the United States, the proportion of children in the population (Forum on Child and Family Statistics,[48]) and the proportion of both working parents are on the rise.[49] The closure of schools and childcare centers due to COVID-19 brought an additional burden to working mothers and fathers during the pandemic. Working parents need to coordinate their working time and work activities according to their children and family life. One idea is to establish a routine for the kids and parents so that parents can get some uninterrupted amount of time for their work. Parents can take turns and schedule their time with their kids separately while giving the other parent an opportunity to focus on their work, and at the same time, they can care for their children. When possible, parents can schedule to spend more time with their kids when the kids are active and can provide their kids activities that they can do on their own at kids' quieter times. Some parents find it easier and more efficient to work very early in the mornings (before kids wake up) or late at night (after children go to bed). However, this may not be possible or even feasible for everyone due to the working hours requirement of the parents' jobs. Virtual caregivers, a new concept that many parents are not familiar with, can be a useful and important facilitator to increase productivity and efficiency for working from home. Virtual caregivers cannot change diapers or feed a baby, but they can be great for school-age children for their education and keeping them occupied for a period of time.

One of the other challenges of maintaining a good work and life balance while working from home is to control for environmental factors and distractions at home. Making plans to prevent interruption of the working process and determining a start and end time for work is crucial. Ideally, one must separate work and personal time during the day to achieve higher work efficiency and to allocate sufficient time for personal and family matters. Although working from home make these more challenging, additional time gained by not commuting to work can be used either for work and life matters when needed. Last but not least, choosing a specific place to work at home can be useful in creating an effective and organized working environment and may help to decrease distractions.

2.4 | Maintaining a good health

Maintaining good physical and mental health is crucial for one's well-being not only during a pandemic but at all times. The pandemic situation brings additional challenges to keep physically and mentally healthy for especially those who are working from home.

The risk of obesity, hence hypertension and cardiovascular diseases, increases due to overeating when people spend an excessive amount of time at home without going out.[50,51] Obesity is an important public health problem in the United States, and more than 60% of the US population is overweight or obese.[52] The pandemic, less mobility and spending more time at home with easier and constant access to food may worsen this situation. To prevent gaining weight one can eliminate trans-fatty acids in their diet and limit the consumption of sugary sodas and high-calorie drinks.[52] In addition, one must make the necessary lifestyle changes to have a healthy and nutritious diet, and sufficient physical activity.[50] Available opportunities at home environment can be utilized in this sense. For example, a sports area, a walking area, or a hobby garden can be created, as well as activities such as cycling and walking (with physical distance requirements) can be done.

While the complete elimination of anxiety and fear is not a realistic expectation during the COVID-19 pandemic, one needs to recognize the importance of protecting mental health and avoiding infection. The pandemic has caused fear, helplessness and anxiety in most individuals, and these emotions adversely have affected their behaviors.[53] One can be optimistic and productive under normal working conditions at regular times but they can be tired, unmotivated and nervous during a pandemic such as COVID-19. It may be possible to reduce or eliminate such adverse effects with help of social interactions and bonds.[54] It is important to maintain daily routines while working at home such as taking a shower, getting dressed formally and having breakfast as if one leaves their home for work. Furthermore, it is essential to detach from work and not to work all the time to prevent burnout.[55,56] Taking virtual and real coffee breaks during work with colleagues, friends and family may be the best social activities to boost morale and refresh.

Unfavorable physical conditions, such as high temperature, high humidity, dust and noise at home can also adversely affect both the working performance and health of individuals working from home.[57,58] However, such risks can be reduced significantly with simple and effective measures, such as regular cleaning and ventilation of the working environment, use of noise-canceling earbuds.[57]

Waking up in the morning and going from one room to another may not drive sleep away and definitely not the best way to start a day, but walking outside, doing breathing exercises with fresh air, listening to music for a short time, having breakfast, and drinking coffee will make it easier to get ready to work.

3 | POSSIBLE WORKPLACE CHANGES AFTER COVID-19

The COVID-19 pandemic has affected our lives profoundly in almost every aspect. Although certain companies and countries have been trying to get back to normal to reduce the economic burden of the pandemic, no one really knows what the future will bring, especially for work life. First of all, it may not be possible for people to return to their workplaces for a long time due to COVID-19. Even if so, companies or employees may not want to work in offices due to various factors, such as profitability, productivity and comfort. Therefore, the pandemic may actually be the beginning of a change for work life. One certain change is that workplaces will not be as before. The pandemic has changed and will reshape working styles, work hours and workplace furniture by requiring and bringing the concept of social/physical distancing. Organizations should plan how to adapt to physical distancing rules and requirements and train their people accordingly. For instance, Cushman & Wakefield,[59] a real estate company, has designed an office space where employees can work two meters apart from each other. Another example is that Twitter, Facebook, Amazon, CapitalOne, Microsoft, Zillow and others have announced that they have allowed almost all of their employees to work from home for good (Twitter) or for a long time (others).[60] Furthermore, some workplaces may require their employees to work in shifts to maintain social distancing rules. Some schools have started implementing alternate day strategy for their students to have smaller class sizes and enable physical distancing rules for face to face classes as well as allowing fully remote education options for students who prefer to stay home.[61]

More warning signs and symbols for physical distancing and recommended practices to reduce the spread of the Coronavirus have already been part of our lives since the beginning of the pandemic at most public spaces such as grocery stores. Now with the reopening of schools and workplaces, we will see these signs and symbols more often and especially in workplaces, government offices and almost all public spaces. Visual instructions are (and will be) placed on floors, walls, and even equipment at workplaces to remind and encourage people and employees to practice social distancing, for example, to walk at designated lanes, to prevent overcrowding at workstations and, most importantly, to maintain one-way flow among people while walking.

In addition to signs to regulate and encourage physical distancing, we also see companies are using a greater number of products with contactless technology such as smart doors, no-touch scanning, and facial recognition to limit employees to touch somewhere at the workplace and to reduce the potential risk of infection or spreading infection during the pandemic. We further expect most workplaces do renovations to enlarge corridors and working spaces, develop new and more strict cleaning guidelines of workplaces and to invest on new technology and equipment to decrease the spread of COVID-19 such as proper ventilation systems, protective screens for their employees and customers, virtual meetings and work when possible.

4 | CONCLUSION

The COVID-19 outbreak continues to affect all aspects of human life such as workforce, lifestyle and life plan.[24] One of them is work from home. Working from home can provide a great level of flexibility and opportunity during a pandemic, such as COVID-19, for those who are able to do so. Furthermore, it also helps to reduce the spread of the disease by keeping most people at home to practice physical distancing. Although working from home has many advantages, it also has its challenges. In this paper, we discuss how to reduce the negative effects and disadvantages of working from home required by the COVID-19 pandemic, how to improve working conditions from home so that individuals are more productive and feel better by working from home, and how to decrease health issues due to working from home during the pandemic.

Many employees cannot go to workplaces during a pandemic, such as COVID-19, and need to work from home. In such circumstances, it is crucial to develop and implement best practices for working from home to maintain a good level of productivity, achieve the right level of work and life balance and maintain a good level for physical and mental health. Also, the COVID-19 pandemic showed that the strong infrastructure for remote work is important. Preventive studies will also need to be carried out against the problems that may arise in cybersecurity, reliability and digitalization during the pandemic.[62]

Furthermore, it is expected that the world will focus on the forces of digitalization and technology after the pandemic.[63] Based on this anticipation, qualitative studies can contribute to identifying the challenges associated with working from home and the potential offer of solutions to these.

We believe that our paper is one of the first to examine the problems of an overview of working from home during the COVID-19 pandemic, its effects on health, and recommendations to make it healthier, more productive and easier.

5 | IMPLICATIONS FOR NURSING PRACTICE

COVID-19 has been one of the biggest public health and economic challenges that our world has faced. The pandemic has changed our lives in many ways significantly. One of these changes is working from home. If people can work from home productively and happily that would not only help to reduce the spread of the disease but also reduce the need for mental health services. This has a direct effect on the healthcare systems and also nursing practice. In this review, we discuss how to reduce negative effects and disadvantages of working from home during the COVID-19 pandemic, how to improve working conditions from home so that individuals are more productive and feel better by working from home, and how to decrease health issues due to working from home during the pandemic.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTIONS

The study was conceived by Canan Birimoglu Okuyan and Mehmet A. Begen. Both Canan Birimoglu Okuyan and Mehmet A. Begen wrote and edited the manuscript.

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