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Article type : Letter to the Editor

Importance of physical activity during and after the SARS-CoV-2 / COVID-19 pandemic: a strategy for women to cope with stress.

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Running head: physical activity for coping with stress in women during Covid-19 pandemic

Key words: women; physical activity; COVID-19;

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List of abbreviations: No abbreviations

Dear Editor,

We have read with interest the article "Gender issues during the times of Covid-19 pandemic" by Grisold W [1] and we found it significant in the context of the present pandemic.

The current SARS-CoV-2/COVID-19 pandemic is associated with an increase of emotional stress and fear that have strongly affected women's mental health. [2] Stay-athome measures together with financial and security concerns can lead to high stress levels. The additional care burden associated with childcare and caring for sick family members during pandemic can contribute to significant psychological stress. In the present context it is quite difficult to find strategies to reduce stress and anxiety. [2,4] Good options are physical activity and relaxing tools. During the pandemic the WHO has provided guidance for people in self-quarantine consisting of practical advice on how to stay active and reduce sedentary behavior while at home following on-line exercise classes, and using video- or app-guided aerobics training. [Available at https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/noncommunicable-diseases/stay-physicallyactive-during-self-

quarantine#:~:text=WHO%20recommends%20150%20minutes%200f,equipment%20an d%20with%20limited%20space. (accessed May 8, 2021)]. Despite these valid suggestions physical activity was significantly reduced during quarantine. [2,3,4] In addition, women were more likely to develop food craving to cope with stress than men [2]. This difference has been attributed to the hormonal differences between women and men [2] Food craving is characterized by a high intake of fat- and sugar-rich foods leading to obesity. [2,4] Obesity is a risk factor for COVID-19 and is associated with high levels of inflammation. [2] Regular physical activity helps in the fight against obesity both because it reduces inflammation and because it facilitates weight reduction. In addition, regular physical activity helps in managing stress and anxiety.

In the current situation it is important to find strategies to cope with stress, also ones specifically dedicated to women, including social support, stress management and, when appropriate, psychological support (Table 1). Gendered differences of COVID-19 are present not only at a biological level, but also at a psychological, social and societal level.[2,4] Yan found that strong risk factors for stress in women were poorer health, a worsening local pandemic status, a desire for more knowledge regarding COVID-19, problems relating to non-Covid healthcare situations and inability to work/study [5]. These data suggest that women were resilient, although prevention measures specifically dedicated to women's health are needed. It may well be that in countries with lower resources these options are not available.

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AVM, FC and SG conceived the underlying idea for the article, developed the different parts of the manuscript, performed the final supervision. All authors contributed to and approved the final manuscript. JAC proofread the text for language editing.

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Table 1

Key points for physical activity in managing stress during and after COVID 19 pandemic restrictions

During quarantine and isolation

- Reduce sitting time (i.e. watching TV, sofa time)
- During smart working and distance learning take frequent pauses and stand up
- Contact friends using technologies
- Perform low impact physical activities after online classes
- Involve friends/family in online gym classes
- Contact psychological support online
- Perform relaxing activities (i.e. Yoga, Chi-Kung, Tai-Chi)
- Watch and follow workout videos on YouTube

After quarantine and isolation

- Go outside
- Take short walks daily, possibly with friends
- Go running, possibly with friends
- Start or resume gym/pool activities,
- Use step-counter for monitoring
- Download smart-phone apps and start following a fitness program
- Choose a variety of physical exercises to avoid monotony
- Play with children
- Go out in the fresh air and enjoy the sunshine