Physical and Sedentary Activity during COVID19-induced Confinement

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Introduction

- COVID19 was declared as fatal pandemic by the WHO in March, 20.
- As of Sept 20, the total is approaching **35,000,000** cases and **1,000,000** fatality (Peeri, 20).
- COVID19 is a **highly pathogenic** virus (Bai, 20).
- People are spending **more time at home** due to **confinement** measures, which **affect lifestyle and health**.
- Decreased PA and increased SA are known for deteriorated health and quality of life.
- ✓ They are documented to increase the risk of diseases, hospitalization, morbidity, and mortality.

Purpose

In the current investigation:

- Changes in PA activity SA during COVID19 was investigated.
- The factors that might contribute to these changes.

Methodology

<u>Design and participants</u>

- **Cross-sectional survey** distributed via social media during **April and May of 2020** to examine the **changes in PA and SA**.
- **Adults (age >18 years)** of **both genders voluntarily consented to the study**.

<u>Questionnaire</u>

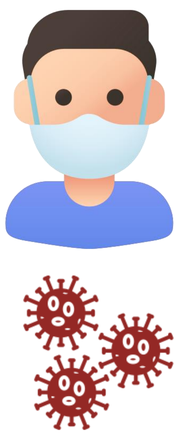
Domains covered in the questionnaire:

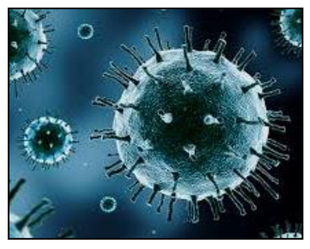
- Demographics (i.e. age, gender, socioeconomic status)
- Perception and implemented confinement procedures
- **Changes in PA and SA during the pandemics**.
  - ✓ PA: Walking, jogging, cycling, swimming, and weight lifting.
  - ✓ SA: Watching TV, using electronics, and logging to social media.

Results

Table 1:
- 1844 individuals responded to the questionnaire.
- Age, weight, and height ranges were 18-72 years, 38-144 kg, and 120-198 cm, respectively.
- Most of the participants were women, with a bachelor degree, receiving middle income, who are unemployed while more than 50% were either overweight, obese or severely obese

Table 1. The participant demographic (n=1844)	
Gender (%; male)	30.5
Age (yrs, mean±SD)	33.7 ± 11.3
Weight (kg, mean± SD)	72.6± 16.3
Height (cm, mean±SD)	166.3± 9.0
Obesity (BMI; %)	
Under weight	2.1
Normal weight	43.3
Overweight	35.4
Obese	14.8
Overly obese	4.4
Level of Education (%)	
High school and less	19.4
Associate degree	14.1
Bachelor degree	51.3
Graduate degree	15.3
Income (%)	
Low	34.5
Middle	65.5
High	
Job type	
Unemployed/retired	35.6
Military/Police	4.8
Education	23.9
Agriculture	1.8
Health	14.0
Manufacturing	2.8
Engineering	5.8
Management	8.2
Crafting	3.2





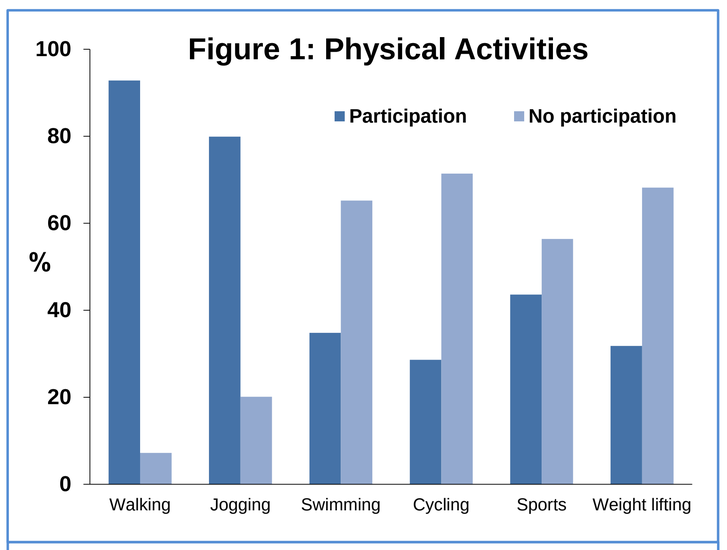


Figure 1: the majority of the participants reported no involvement in PA including cycling (71.4%), swimming (65.2%), sports (56.4%), and weightlifting (68.2%).

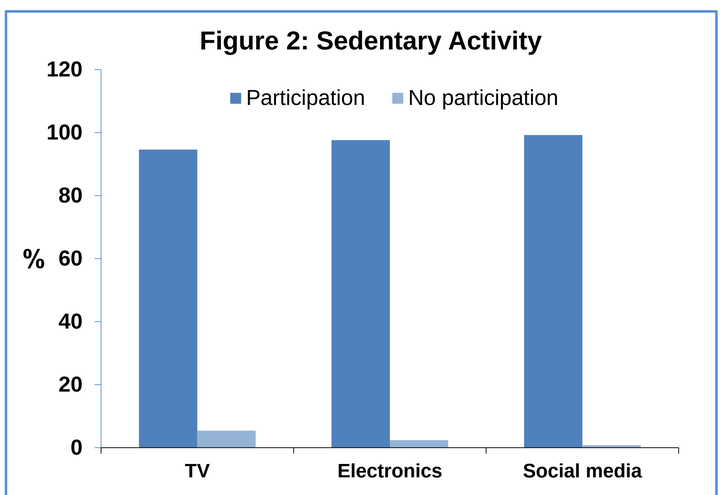


Figure 2: Most of the subjects were involved in all the surveyed SA including watching TV (94.6%), using electronics (97.6%), and logging to social media (99.2%).

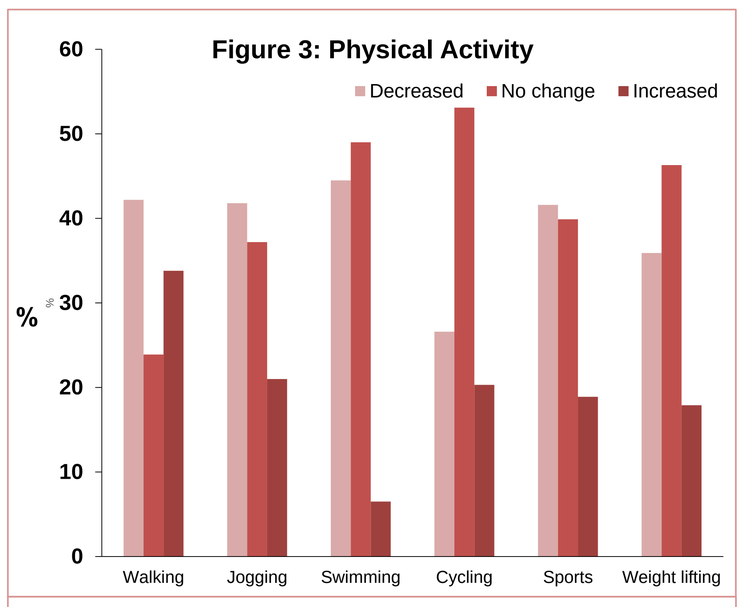


Figure 3: The majority of the participants reported a decrease in walking (42.2%), jogging (41.8%), and sports (41.6%) while the majority reported a no change in swimming (49.0%), cycling (53.1%), and weightlifting (46.3%).

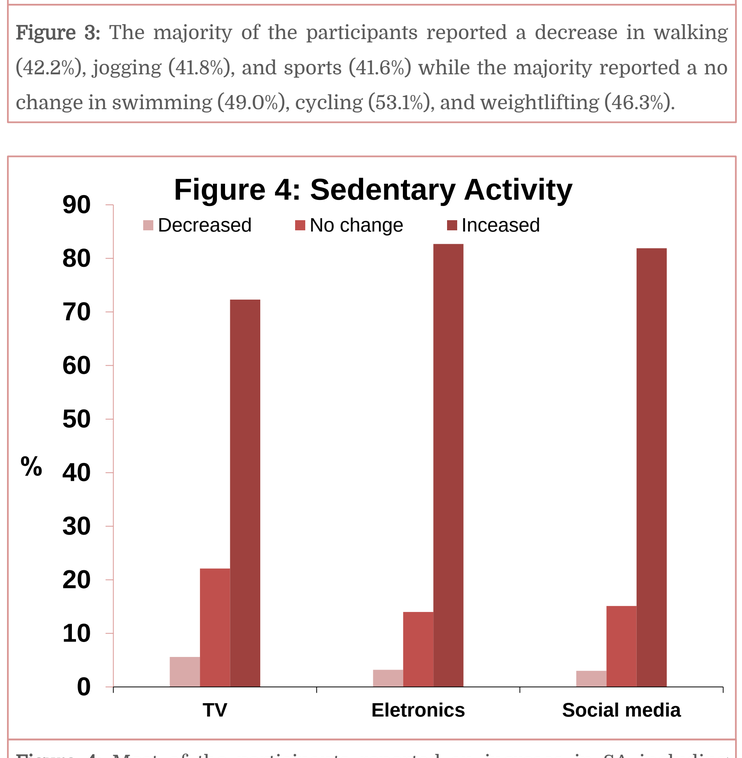


Figure 4: Most of the participants reported an increase in SA including watching TV (72.3%), using electronics (82.7%), and logging (81.9%) to social media (%).

Main Findings

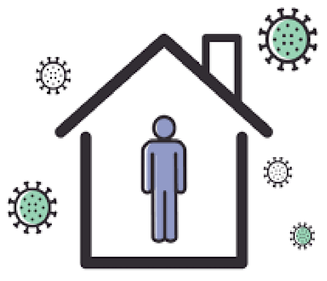
- The current study revealed a **35.9-44.5% decrease in the different modes of PAs and 72.1%-82.7% increase in the various SA** measures.
- **Age, gender, income, occupation, obesity, and being worried about conducting COVID19 are associated** with the changes in PA and SA.

Discussion and Conclusions

- As previously has been anticipated (Carter, 20; Narici, 20), **PA and SA decreased and increased, respectively** among the participants in the current study during **confinement due to COVID19**.
- The ramifications of these changes remained to be unraveled, however these **results are alarming and might be associated with adverse health effects.**
- Reduced PA and increased SA may impact all body systems including **metabolic, respiratory, cardiovascular, musculoskeletal, and immune** systems (Carter, 20; Narici, 20).
- Age, gender, income, occupation, obesity, and being worried about conducting COVID19 seem to predict changes in PA and SA.
- Therefore, **strategies** are needed to help people **staying active to mitigate the possible adverse health effects** during the current and future pandemic-induced confinements.
- These **strategies** should **consider the demographics and socioeconomic status** factors when implemented.

Recommendations

Studies are needed to verify the current findings. Additionally, strategies are warranted to encourage people staying active and to mitigate the adverse health effects of inactivity due to confinement during the current and future pandemics.



References

- (Peeri et al., 2020; Rothan & Byrareddy, 2020)
- (Y. Bai et al., 2020; Zhou, Zhang, & Qu, 2020)
- (Z. Bai et al., 2020; Calton, Abedini, & Fratkin, 2020)
- (Gane, Kelly, & Hopkins, 2020; Verity et al., 2020).
- Elfiky, 2020; Joynt & Wu, 2020).
- (i.e. educational, medical, versus managerial),
- (Carter et al., 2020; Chen et al., 2020; Jurak et al., 2020; Narici et al., 2020; Pecanha et al., 2020; Rahmati-Ahmadabad & Hosseini, 2020