

Obesity during COVID-19 Lockdown: Interesting Facts

HATTA S¹, SRIJIT D^{2*}

¹*Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia.*

²*Department of Human & Clinical Anatomy, College of Medicine & Health Sciences, Sultan Qaboos University, Muscat 123, Sultanate of Oman.*

The COVID-19 began in the later part of December 2019 and was declared a pandemic by the World Health Organization (WHO) in March 2020. By 30 May 2021, the total number of cases and number of deaths had already reached 170,696,150 and 3,550,234, respectively (Worldometer 2021). Many countries struggled to control the infection by imposing either full or partial lockdown or even movement control orders. The economy suffered due to the complete lockdown. The lockdown affected lifestyle of individuals in many ways. Domestic violence, mental stress, and change in eating habits took place. One of the most important health problems was the increase in obesity in absence of physical activity.

A research study hinted at the consumption of unhealthy food habits such as overeating (hyperphagia) and frequent eating while being at home (Alfawaz et al. 2021). Increased confinement during quarantine and sedentary habits had a negative effect

on the individual's health, especially when the person is spending their time in front of a computer or watching online television programmes (Patterson et al. 2018). It was observed that individuals while being at home increased their intake of snacks between their meals. Such consumption was mainly due to emotional stress, e.g., anxiety and boredom (BDA 2020). Few other reasons included less motivation to do any physical activity (Gardner & Rebar 2020) and an increase in mood-driven eating (Centola 2013). Meals were not properly timed during the lockdown period and many had altered sleep habits. The food consumed was not even considered for its calorie content before consumption. In this context, we may advise the use of proper apps to educate people regarding healthy eating. Individuals could perhaps identify the diet rich in proteins and fibers and rather avoid junk food and those with high glycemic index. Much food consumed was high in fat, sugar, carbohydrates, sodium, and salt

Address for correspondence and reprint requests: Dr. Srijit Das. Department of Human & Clinical Anatomy, College of Medicine & Health Sciences, Sultan Qaboos University. P.O. Box 35, Al-Khoud, Muscat 123, Sultanate of Oman. Tel: +968-24143458 E-mail: drsrijit@gmail.com

content.

The choice of food depends upon behavioral, cultural, socioeconomic, and environmental factors (Mandal 2021). The choice of food certainly determines the energy intake and this influences the genetic and metabolic factors to determine the individual's body weight and composition (Mandal 2021). According to the same author, if there is an imbalance between the amount of energy consumed through foods and beverages taken in and the amount of energy spent on metabolism physical activity, there is a chance of development of obesity (Mandal 2021). The increase in psychological stress may also lead to abdominal obesity and thereby metabolic syndrome. Chronic and elevated glucocorticoid exposure is associated with an increase stress which may have notorious effect to the body system like hippocampal shrinkage (Sapolsky 2020). Stress also predisposes to an excessive food intake and leptin-resistant obesity due to the disturbance in the balance between leptin and neuropeptide Y (Bjorntop 2001). Junk food also increased the body mass index (BMI) leading to weight gain. There were times when canned beverages and fried items were stocked before lockdown to be consumed actively while watching television at home. We advise that the health authorities in all nations to come up with a healthy food chart educating the people regarding better food habits.

Research studies reveal that psychosocial stress may have a negative effect on food-related behaviour (Clemmensen et al. 2020).

Psychosocial stress was found to increase energy intake (Bjorntop 2001) and those individuals who had fewer social interactions, were predisposed to obesity (Kim 2006). Psychosocial changes affect the neuroendocrine systems of the body regulating energy metabolism (Clemmensen et al. 2020). It was found that during the COVID-19 confinement, there was a change in the individual's cognitive restraint and enhance impulsive eating behaviour (Clemmensen et al. 2020). Researches revealed that emotional eating was used to relieve negative feelings (Clemmensen et al. 2020). In this regard, we suggest that individuals need to relieve stress while staying at home during the lockdown. One could even abstain from regular news watching on television which could disturb one's mind with the regular coverage of morbidity and mortality related to COVID-19, worldwide. At times, it creates fear in the mind of the viewer.

It cannot be refuted that majority of obese individuals require mechanical ventilation and many have died once they suffer from COVID-19. High BMI may also lead to more chances of developing pneumonia in obese individuals (Stefan et al. 2020). Metabolic syndrome may be life-threatening during COVID-19. Hence, we advise that individuals plan out a healthy lifestyle with healthy food consumption and resort to regular physical activity in order to check weight gain and also boost their immunity.

REFERENCES

- Alfawaz, H., Amer, O.E., Aljumah, A.A., Aldisi, D.A., Enani, M.A., Aljohani, N.J., Alotaibi, N.H., Alshingetti, N., Alomar, S.Y., Khattak, M.N.K., Sabico, S., Al-Daghri, N.M. 2021. Effects of home quarantine during COVID-19 lockdown on physical activity and dietary habits of adults in Saudi Arabia. *Sci Rep* 11(1): 5904.
- BDA 2020. Eating Well During Coronavirus/ COVID-19. <https://www.bda.uk.com/resource/eating-well-during-coronavirus-covid-19.html>. [29 May 2021].
- Bjorntorp, P. 2001. Do stress reactions cause abdominal obesity and comorbidities? *Obes. Rev* 2 (2): 73-86.
- Centola, D. 2013. Social media and the science of health behavior. *Circulation* 127(21): 2135-44.
- Clemmensen, C., Petersen, M.B., Sørensen, T.I.A. 2020. Will the COVID-19 pandemic worsen the obesity epidemic? *Nat Rev Endocrinol* 16(9): 469-70.
- Gardner, B, Rebar, A.L. 2020. Habit formation and behavior change. https://unimuenster.sci.ebo.de/apps/files/?dir=/2020_PROCare4Life_3100050300/02_Online%20survey%20ECLBCOVID19&fileid=1748656124#pdfviewer [16 April 2020].
- Kim, D., Subramanian, S.V., Gortmaker, S.L., Kawachi, I. 2006. US state- and county-level social capital in relation to obesity and physical inactivity: a multilevel, multivariable analysis. *Soc Sci Med* 63(4): 1045-59.
- Mandal, A. 2021. Obesity and fast food, News Medical, Accessed from website <https://www.news-medical.net/health/Obesity-and-Fast-Food.aspx> [29 May 2021].
- Sapolsky, R.M. 2020. Glucocorticoids and hippocampal atrophy in neuropsychiatric disorders. *Arch Gen Psychiatry* 57(10): 925-35.
- Stefan, N., Birkenfeld, A.L., Schulze, M.B., Ludwig, D.S. 2020. Obesity and impaired metabolic health in patients with COVID-19. *Nat Rev Endocrinol* 16(7): 341-2.
- Patterson, R., McNamara, E., Tainio, M., de Sá, T.H., Smith, A.D., Sharp, S.J., Edwards, P., Woodcock, J., Brage, S., Wijndaele, K. 2018. Sedentary behaviour and risk of all-cause, cardiovascular and cancer mortality, and incident type 2 diabetes: a systematic review and dose response meta-analysis. *Eur J Epidemiol* 33(9): 811-29.
- Worldometer 2021. <https://www.worldometers.info/coronavirus/> [29 May 2021].

Received: 31 May 2021

Accepted: 7 June 2021