

# The impact of the COVID-19 pandemic on risk factors for non-communicable diseases among members of staff at the University of the West Indies, St. Augustine Campus

Team Redeem - T Millard, U Dodoll, V Rajkumar-Singh, V Ramsarran, V Ramlochansingh, V Suklal, V Heeralal, V Mahabir, D Murray (Supervisor)

Department of Clinical Surgical Sciences- Faculty of Medical Sciences, The UWI  
vasant.Heeralal@my.uwi.edu (Leader), desiree.murray@sta.uwi.edu (Supervisor)

## Introduction

Non-communicable diseases (NCDs) are the leading cause of death and disability in the Caribbean region [1,2]. Most COVID-19 related deaths in Trinidad and Tobago occur in individuals with at least one NCD as a comorbidity [3]. In August 2021, of the 214 COVID-19 deaths recorded in Trinidad and Tobago, 191 (89%) had comorbidities.

Furthermore, 48.4% of those in home isolation with Covid-19 have comorbidities, with diabetes and hypertension being the most common [3]. The University of the West Indies, St. Augustine has implemented a work from home policy adhering to public health measures. This is conducive to a sedentary lifestyle, increasing the risk of developing NCDs.

## Objective

To compare lifestyle (diet, physical activity, tobacco and alcohol consumption) and biomedical data ( blood glucose, blood pressure, weight) among the staff at UWI STA Campus before and during the COVID-19 pandemic.

## Methodology

Online self-administered questionnaires were disseminated to the UWI STA staff members to collect information on lifestyle and biomedical data before March 2020 and during the COVID-19 pandemic (after March 2020).

- Inclusion- >18 years old, employed at UWI STA during the conduction of the study
- Exclusion- <18 years old, pregnant during the conduction of the study, non-English speaker

## Results

There was a 34.8% increase in the proportion of persons working from home. Weight gain was reported in 49% of respondents (mean +3.63kg, SD=3.6kg), including a 4% increase in the prevalence of obesity. An increase in meal portion sizes was reported by 17.1% of respondents (p=0.227) and 6.6% more persons consumed “more than three meals” daily (p=0.004).

Increases in average random and fasting blood glucose (p=0.139 and p=0.143 respectively) were found. Average systolic and diastolic blood pressure increased (p=0.135 and p=0.145 respectively). There were decreases in alcohol consumption frequency (p=0.232) and intensity (p=0.857), no change in smoking frequency (p=1.00), but an increase in the number of cigarettes smoked (p=0.279).

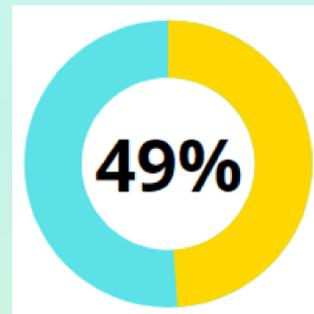


Fig 1: Weight gain during COVID-19

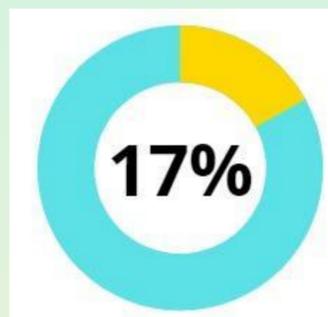


Fig 2: Increased meal portion sizes during COVID-19

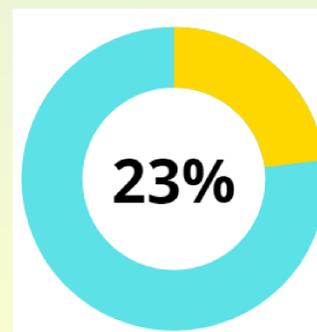


Fig 3: Stopped exercise during COVID-19

## Results

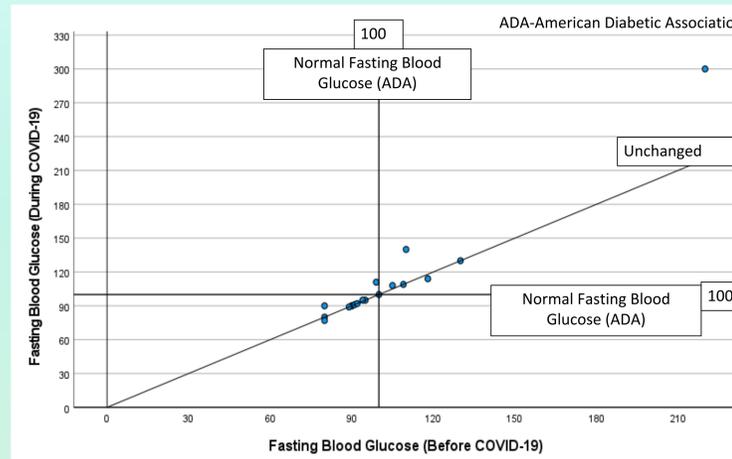


Fig 4: Changes in fasting blood glucose during COVID-19

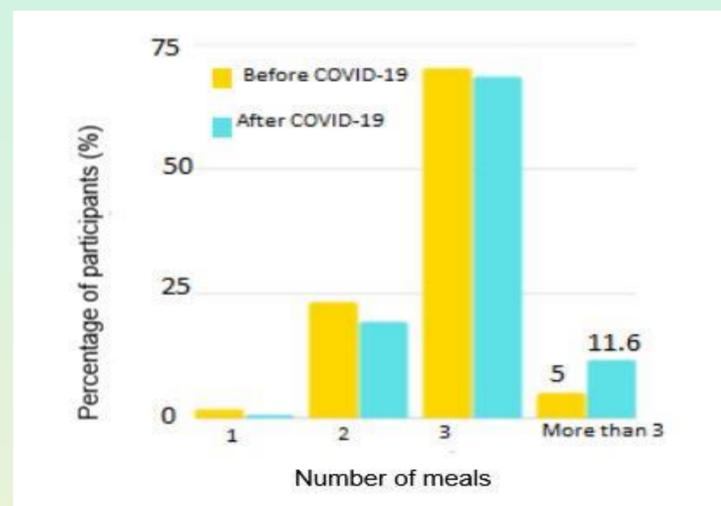


Fig 5: Changes in food frequency during COVID-19

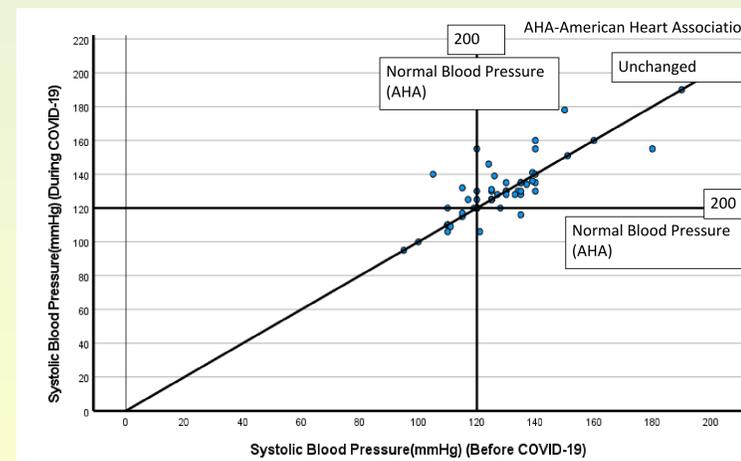


Fig 6: Changes in systolic blood pressure during COVID-19

## Discussion

Working from home during the lockdown increased sedentary lifestyle behaviours. Restrictions and fear of contracting the disease from accessing outdoor exercise locations contributed to individuals no longer exercising.

Stay at home policies promoted increased portion sizes and meal consumption frequency which may have resulted as a coping mechanism for the stress of experiencing a pandemic and restrictions.

An increase in the prevalence of obesity as well as increased average blood sugar and blood pressure due to changes in lifestyle, reflect a worrying trend which can exacerbate the existing NCD epidemic.

## Conclusion

Increased obesogenic behaviours during the pandemic predispose individuals to the development of NCDs. These findings indicate the need for further research on the impact of the COVID-19 pandemic on lifestyle choices and prevalence of NCDs on the population of Trinidad & Tobago.

Persons with NCDs should be encouraged to monitor what they eat, stay active and get vaccinated.

## References

1. Kamineni S. Why the 21<sup>st</sup> century's biggest health challenge is our shared responsibility [Internet]. Weforum.org. 2019 [cited 11 July 2021]. Available from: <https://www.weforum.org/agenda/2019/01/why-the-21st-centurys-biggest-health-challenge-is-our-shared-responsibility/>
2. Caribbean Public Health Agency. State of Public Health. 2019. Healthy Ageing in the Caribbean. Port of Spain, Trinidad, and Tobago: CARPHA; 2020.
3. NCDs causing more Covid deaths in T&T [Internet]. Trinidad Express Newspapers. 2021 [cited 15 September 2021]. Available from: [https://trinidadexpress.com/news/local/ncds-causing-more-covid-deaths-in-t-t/article\\_6b616822-1366-11ec-906a-a3822b11d036.html](https://trinidadexpress.com/news/local/ncds-causing-more-covid-deaths-in-t-t/article_6b616822-1366-11ec-906a-a3822b11d036.html)

## Acknowledgments

Special thanks to the University of the West Indies, St. Augustine campus, all respondents, Dr. Murray and coinvestigators for making this research possible.