The Effect of the Covid 19 Lockdown Period on Diabetes Management

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Background

- COVID-19 is the most recent infectious disease originating from the SARS family coronavirus and is responsible for the 2020 pandemic
- Over a 32million cases have been reported in the U.S alone, with over 500,000 deaths recorded
- Transmission of the virus is mainly through airborne exposure to respiratory droplets and direct contact with infected individuals
- Much of disease health impact is related directly to the effect of the virus on multiple body systems, but also noted is the indirect Psychosocial impact
- The state of New Jersey implemented a mandatory lockdown period from April 2020 until June 2020 to curb the spread of the virus.

Purpose

- Our research set out to illustrate the implications of the lockdown on the hemoglobin A1c, as well as other high-risk comorbidities such as BMI and blood pressure

Hypothesis

- There was an increase in the Hemoglobin A1C, Blood pressures, and BMI's in the post compared to the pre-lock down period

Methods

- Our data was obtained from the Mountainside Family Practice electronic medical records.
- We used a retrospective study design to analyze Records of 325 patients with diabetes and prediabetes seen between the periods of November 2019 and November 2020 were analyzed.
- 65 patients whose hemoglobin A1c checked in both the pre-covid and post-covid time periods were selected. The BMI and blood pressures of the 65 patients were also analyzed,

Results

Figure 1. Mean Average ± SE

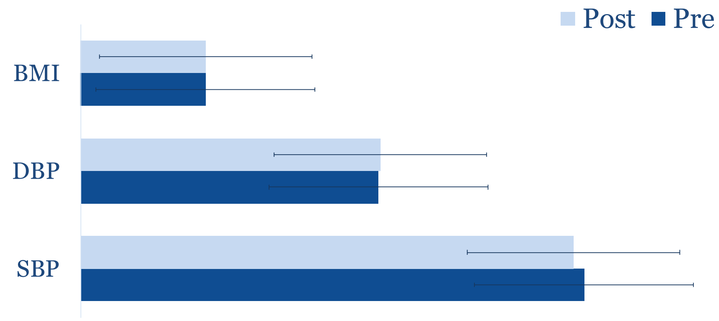
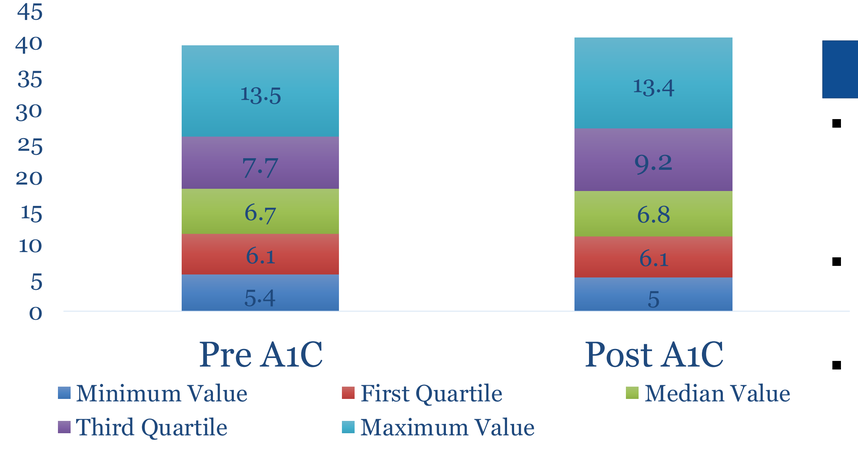


Table 1. Paired Samples t-Test

	M	*SD*	*T*	*P*
SBP	1.717	17.446	0.762	0.449
DBP	-0.7	7.207	-0.752	0.455
BMI	-0.06949	1.88163	-0.284	0.778

Figure 2. A1C Median Statistics, Z -1.917, p =0.055



Discussion

- In the current study, there were no significant differences between pre and post COVID-19 A1c, BP and BMI values.
- Supplemental analyses suggest gender, and time between visits did not influence results. However, age correlated with Post-DBP (r=-.267, p=.039).
- Of the 365 patients seen in the pre-COVID period, only 65 followed up to be seen in the post COVID period.
- There was significant variability in the length of time between pre- and post- COVID visits (range 2 to 12 months), which may have affected the current study findings.
- Future researchers should replicate the study with a larger sample size and with controls for length of time between visits (e.g., monitoring physiological health regularly).

Conclusion

- The Covid-19 lockdown did not result in a statistically significant change in hemoglobin A1c, BMI and BP, as such we couldn't refute our null hypothesis.

References

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