

ABSTRACT

- Type II Diabetes and COVID-19 are both epidemics occurring simultaneously in the United States
- Type II Diabetes is a preventable disease
- Researchers are gathering information on how diabetes affects the severity of COVID-19
- Long term affects of COVID-19 are still unknown

RESULTS

- ACE Inhibitors do not affect prognosis of COVID-19 (Lopes et al, 2021)
 - Significant because many diabetics use these medications (those with heart disease).
- Kolb and Martin (2017) discuss the environmental and lifestyle factors that influence the increase in Diabetes in the world.
 - Those with genetic risk and beta cell damage are thought to be at higher risk when environmental and lifestyle factors are accounted.
- Sorensen et al. (2017) discusses the affect that noise pollution and environmental factors have on the incidence of diabetes.
 - Exposure to 10-decibel higher level of “road traffic noise” during the prior 5 years in the cohort study of increased risk of diabetes.

DISCUSSION/CONCLUSION

- Novelty of COVID-19 makes it increasingly hard to have a solid consensus
- Those with diabetes oftentimes have other comorbidities, which can confound the data
- How will the development of vaccines impact health outcomes due to COVID-19 in those with Type II Diabetes
- Allocate funding to communities heavily impacted by COVID-19

OBJECTIVES

- Determine factors that worsen diabetes
- Do social determinants increase likelihood of diabetes and COVID-19?
- Factors in common between diabetes and COVID-19 (environmental, social, economic, etc).

RESULTS

- Those older than 60 had worsened symptoms, according to the prior chart symptoms included:
 - Nausea
 - Vomiting
- Higher mortality (16.5% vs. 0%)
(Guo, et al. 2020)

TABLE 1

TABLE 3 Demographics and baseline characteristics of diabetic and non-diabetic COVID-19 patients without other comorbidities

	No. (%) Total (n = 50)	Non-diabetics (n = 26)	Diabetics (n = 24)	P-value*
Age, median (IQR), y	41 (32-60)	32 (30-37)	61 (57-69)	<.01
Gender				
Male	21 (42)	9 (34.6)	12 (50)	.27
Female	29 (58)	17 (65.4)	12 (50)	
Signs and symptoms				
Fever	40 (80)	22 (84.6)	18 (75)	.30
Highest temperature, °C				
<37.3	9 (18)	4 (15.4)	5 (20.8)	.62
37.3 to 38.0	10 (20)	6 (23.1)	4 (16.7)	.57
38.1 to 39.0	26 (52)	15 (57.7)	11 (45.8)	.40
>39.0	4 (8)	1 (3.8)	3 (12.5)	.26
Fatigue	14 (28)	9 (34.6)	5 (20.8)	.27
Chill	39 (78)	20 (76.9)	19 (79.2)	.85
Cough	26 (52)	15 (57.7)	11 (45.8)	.84
Sputum production	12 (24)	7 (26.9)	5 (20.8)	.61
Pharyngalgia	4 (8)	4 (15.4)	0	.05
Dizziness	6 (12)	2 (7.7)	4 (16.7)	.33
Headache	4 (8)	3 (11.5)	1 (4.2)	.34
Chest tightness	6 (12)	4 (15.4)	2 (8.3)	.44
Chest pain	1 (2)	1 (3.8)	0	.33
Shortness of breath	9 (18)	4 (15.4)	5 (20.8)	.62
Myalgia	7 (14)	4 (15.4)	3 (12.5)	.77
Nausea and vomiting	4 (8)	0	4 (16.7)	.03
Diarrhoea	7 (14)	4 (15.4)	3 (12.5)	.29
Onset of symptom to, median (IQR), d				
Hospital admission	7 (5-10)	7 (4.5-10)	10 (6-12)	.19
Mortality	4 (8)	0	4 (16.5)	.03

*P values indicate differences between diabetes and non-diabetes patients. P < .05 was considered statistically significant.

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METHODS

- Literature review explores COVID-19 deaths, with diabetes as the sole comorbidity in Guo et al (2020).
- Explore the factors that cause and contribute to diabetes:
- Cohort studies, literature reviews and discussions, review of statistical results
- Various methods considered when looking at COVID-19 and diabetes, comparing incidence of the two diseases and factors that overlap is critical for drawing conclusions and hypothesis

- Prioritize education at all levels regarding Type II Diabetes in communities where Diabetes is prevalent
- Provide resources to manage and prevent Type II Diabetes in at risk communities
- Explore social and environmental factors that impact prevalence of diabetes
- Conclusions:
 - Push for positive policy changes in the US healthcare system to prevent chronic illness
 - Create a system in which healthcare is trustworthy and empathetic, increasing the likelihood that individuals will adhere to medical advice
 - Create an environment in every neighborhood that fosters wellness
 - Increase access and quality of care in at risk communities

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