Project Milestone 2- Impact of Covid on Our Eating & Drinking Habits

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**INTRODUCTION**

**Impact of COVID-19 on Our** **Eating & Drinking Habits**

Towards the end of 2019 and beginning of 2020, a new disease caused by a virus called coronavirus (SARS- Cov2) started in China, and quickly spread across the world as a major pandemic. Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Usually, people infected with the virus will experience mild to moderate flu like symptoms and recover without any special treatment or admission to a hospital. However, some might become seriously ill and may need medical attention. People with underlying medical conditions like heart disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness. Anyone can get sick with COVID-19 and become seriously ill or die at any age. (Source- WHO website- <https://www.who.int/health-topics/coronavirus#tab=tab_1>)

## OVERVIEW

To do the initial analysis of COVID-19’s impact on our eating and drinking habits, I prepared a list of certain key words I thought would be, directly or indirectly, related. Then I explored the trends of those terms and came to an initial conclusion that Covid has adversely impacted our eating and drinking habits.

However, since the preliminary conclusion was based solely on the key word trends on Google, I started reading papers written on these topics as a follow up to the initial research. These studies were done in 2022 after they had data to analyze and assess the impacts after Covid cases have subsided and Covid was not a disruptor anymore. Some of these studies focused on the impacts specific to children and adolescents, and some were generic. I’ll explain the details of the research and findings in the coming sections.

## ANALYSIS

When I researched this topic while writing Project Milestone 1, as mentioned earlier, I focused on the key word searches on Google Trend. For the current research I decided to read studies and articles written on this topic. While reading I found that it’s not only about an individuals choice on what and how to eat, but it also has a lot of different contributing factors such as the individuals financial condition, familiarity in using online shopping websites, ease of availability of certain types of food, amount of work while working from home, whether that individual has children or elderly to take care of, the age of children, willingness to go outside depending on risk taking capacity and so many more. It’s not easy to make a certain deduction without understanding the reasons that contribute to the choices an individual makes, and that includes the choice of food and drink during the pandemic.

For ease of understanding I’ll separate my current research from the research I did earlier and will document it in different sections below.

## Additional Research

1. The 1st study I will start with is based on an article ‘The dietary impact of the COVID-19 pandemic’ on the website ‘ScienceDirect.com’. During this study the authors collected datasets to track “at-home” and “on-the-go” categories of food bought in grocery stores and using online stores. Finally, they used information from the COVID modules of the UK Household Longitudinal Study (UKHLS; University of Essex and Institute for Social and Economic Research, 2020) to assess how different households were impacted by the pandemic and the Health Survey for England (HSE; NatCen Social Research and University College London, 2021) to map dietary changes into changes in body weight. This study was conducted in the UK.

This study shows that the pandemic led to large changes in where calories were purchased, and substantial increases in the overall number of calories bought, which persisted throughout 2020. Increases in calories from groceries and takeaways outweigh big falls in calories from dine-in restaurants. While calories across all broad food types increased, there were especially large rises in ingredients. These increases are widespread, with 90% of households exhibiting rises. The most likely explanation of increases in purchases is higher consumption, and consequently they are likely to have important impacts on population obesity rates (especially given evidence that levels of physical activity have fallen over the pandemic). There was little change in diet quality over the pandemic, with improvements in some dimensions offsetting reductions in others.

2. The 2nd article I used in my research is ‘Dietary habits during the COVID-19 pandemic. Are work environments part of the problem?’ on website ‘www.frontiersin.org’. The aim of the study is to explore if there were any differences between dietary habits when teleworking compared to working from the office and if these differences had impacts on participants' perceived weight. This study was conducted in Chile.

The results of this study showed that workers perceive an improvement in their eating habits, transitioning to healthier diets as a consequence of working from home. However, despite workers eating healthier, working from home was associated with weight increase and diet-related health problems, probably due to an excessive caloric intake and lack of physical exercise.

3. The 3rd article I used in my research is ‘Eating habits of children and adolescents during the COVID-19 era: A systematic review’ on the website of ‘National Library of Medicine’. This study was focused on children and adolescents. This systematic review aimed to summarize a comprehensive and updated overview of eating habits changes due to COVID19 confinements among children and adolescents.

The conclusion of this study is- the Impact of COVID-19 on children and adolescents' eating habits was both positive and negative, for example, a decrease in fast food, fruits, and vegetable consumption vs. an increase in snacking and sweet consumption. Both changes have significant short-term and long-term impacts on population health. This study could give us clues about changes in eating habits in children and adolescents during confinements. It is worth noting that eating habits established during the pandemic in children and adolescents could affect eating habits in future years and these changes could last until adulthood (20). Thus, we can use them to improve the negative changes during the COVID-19 era.

4. The 4th article I used in my research is ‘Diet during the COVID-19 pandemic: An analysis of Twitter data’, on the website ‘Patterns’ ([www.cell.com/patterns](http://www.cell.com/patterns)). This is an interesting study done on the no. of tweets, combined with the no. of fast-food restaurants, grocery stores, liquor stores and bars in proximity.

This study found that the proportion of tweets referencing healthy food increased by 20.5% during the pandemic period compared with the pre-pandemic period, while the proportion referencing fast food and alcohol decreased by 9.4% and 11.4%, respectively. In addition, more grocery stores per capita, and more time spent at home (aggregated at the county level) coincided with an increased odds of healthy-food tweets and a decreased odds of fast-food tweets. More liquor stores per capita was also associated with an increased odds of alcohol tweets.

County-level changes in mobility during the pandemic, specifically more time spent at home, were associated with healthier food habits among Twitter users. For those able to stay at home during the pandemic, more time at home may have coincided with less exposure to fast food chains. In addition, more time spent at home may have afforded people more opportunities to prepare meals consisting of healthy food ingredients.

5. The 5th study I used in my research is ‘Alcohol-Related Deaths During the COVID-19 Pandemic’ on JAMA Network website. This research suggests that alcohol consumption and related harms increased during the first year of the COVID-19 pandemic. Studies reported increases in drinking to cope with stress, transplants for alcohol-associated liver disease, and emergency department visits for alcohol withdrawal. US mortality data from the National Center for Health Statistics were used to compare numbers and rates of alcohol-related and all-cause deaths among all individuals 16 years or older in 2019 and 2020.

This study further states- the number and rate of alcohol-related deaths increased approximately 25% between 2019 and 2020, the first year of the COVID-19 pandemic. Rates increased prior to the pandemic, but less rapidly (2.2% mean annual percent change between 1999 and 20174). The rate increase for alcohol-related deaths in 2020 outpaced the increase in all-cause mortality, which was 16.6%.

Previous reports suggest the number of opioid overdose deaths increased 38% in 2020, with a 55% increase in deaths involving synthetic opioids such as fentanyl.5 There were similar increases in the number of deaths in which alcohol contributed to overdoses of opioids (40.8%) and, specifically, synthetic opioids (59.2%).

Deaths involving alcohol reflect hidden tolls of the pandemic. Increased drinking to cope with pandemic-related stressors, shifting alcohol policies, and disrupted treatment access are all possible contributing factors.1 Whether alcohol-related deaths will decline as the pandemic wanes, and whether policy changes could help reduce such deaths, warrants consideration.

## Initial Research

To analyze COVID-19’s impact on our eating and drinking habits, I prepared a list of certain key words I thought would be, directly or indirectly, related. I’ll explore the trends of the following search terms starting from 01/01/2019, which is a year before the COVID-19 started, till the current date:

1. “Easy to cook meals”.
2. “Liver disease”.
3. “Acid reflux and heartburn”.
4. “Weight loss”.

“Gym

I’ll start my research by checking the trend of the covid cases over the past 3 years since Covid started. This will give us an idea of when the no. of cases increased and decreased.

* **1st Peak: Apr 2020**- The first peak was observed around the beginning of Apr 2020 the no. of cases, hospitalizations and deaths increased suddenly.
* **2nd Peak: Jan 2021**- This was the second peak observed when the no. of cases, hospitalizations and deaths were very high. In Jun- July 2021 the cases went to the low in this curve, and then started rising again.
* **3rd Peak: Aug-Sep 2021**- Around this time the cases went up again, although the no. was not as high as previous peaks.
* **4th Peak: Jan-Feb 2022**- This was the highest peak observed during the pandemic. Since then, the cases have gradually come down with minor peaks observed in July 2022 and then in Jan 2023.

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*Figure 1: Timeline Comparison- Cases, deaths, and hospitalizations data*

To see the overall trend during the research period, I added a line to the trend to clearly illustrate the slope. This slope will help me in determining the impact of Covid on that search.

1. **Key Word- “easy to cook meals”**

As a measure of changed food habits I looked for trends on search words such as ready to eat, ready to cook, easy meals and frozen food. I’m assuming that readymade meals, which are generally kept frozen and have preservatives, are not healthy compared to fresh cooked meals. Since a lot of people stayed and worked from home during Covid-19, they relied more and more on frozen food which can be quickly heated in microwave ovens.

As per the trend of google searches the slope is positive, which means the search, and most probably, the consumption of frozen foods went up.

This indicates that the eating habits have worsened during Covid-19.

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*Figure 2: Google Trends of readymade meals related searches*

1. **Key Word- “liver disease”**

Next, I searched for health issues related to increased alcohol consumption. One of the areas I decided to focus on was liver, as fatty liver is a common condition for people who consume more alcohol. I searched for trends related to ‘symptoms of liver disease’ and finding a doctor specializing in liver diseases, a ‘hepatologist’.

As can be seen in the trends, there is a gradual increase in liver disease related searches. This indicates there are more people suffering or anticipating liver diseases. This could be an impact of increased consumption of alcohol during the pandemic, thus indicating drinking habits which are causing more health issues.

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*Figure 3: Google Trends of liver disease related searches*

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*Figure 4: Google Trends of liver disease related searches*

1. **Key Word: “acid reflux and heartburn”**

Another common health issue related to unhealthy eating habits is acid reflux and heartburn. An increase in search for these key words might indicate an increase in consumption of unhealthy food.

As can be seen in the google trends there has been an uptick in the searches related to the above key terms, but the increase doesn’t look very drastic. So, it cannot be deduced with certainty that people have increased consumption of unhealthy food during the pandemic, although it cannot be ruled out as well.

Graphical user interface, application

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*Figure 5: Google Trends of acid reflux & heartburn related searches*

1. **Key Word: “weight loss”**

Next, I researched the searches around weight loss. If people have been consuming unhealthy food, and drinking more, then a likely outcome could be weight gain. If this is indeed true, there should be more searches related to weight loss.

As per my research I saw an increase in the no. of searches for weight loss. This means more people are searching for ways to lose weight and this could be related to the negative impact Covid-19 had on our eating and drinking habits.

Graphical user interface, application

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*Figure 6: Google Trends of weight loss related searches*

1. **Key Word- “gym”**

I assumed that if people in general consumed unhealthy food during covid, they would be searching for a gym to improve their health. Although I didn’t see a direct correlation to the peaks and lows in the cases of Covid-19, I noticed a slight upward trend in the past 4 years and 3 months. This indicates to me there are more people searching for gyms, which could mean the overall health of people has gone down and more people are looking for options to improve their health and fitness. This indicates a negative impact Covid-19 had on our eating and drinking habits, resulting in comparatively bad health.

Graphical user interface, application, line chart

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*Figure 7: Google Trends of gym related searches*

## FINDINGS

The results of these studies are very interesting. I got a whole new perspective on this subject, and the reasons behind these findings. How various factors influenced the impacts of Covid on our eating and drinking habits was enlightening, and these studies also took the data from other online sources such as Twitter.

On food habits, I got a mix of positive and negative impacts. In general, I found that the closure of restaurants, and most people spending more time at home resulted in more home cooked meals, which I’ll consider as healthy eating. However, due to restricted social life and increased boredom, some studies show an increase in casual snacking and increase in sugar intake, which I would consider as unhealthy eating. Eating habits also depended on the availability of groceries, and the financial capacity of families to buy those grocery products. When there were more grocery stores in the vicinity, it seems people tend to eat healthy. But due to constrained financial conditions (loss of job due to pandemic), some families had to depend on more ready to eat and cheaper options to fulfill the calorie needs. I’d categorize the result as inconclusive on eating habits.

On drinking habits, the data indicates alcohol-related deaths increased approximately 25% between 2019 and 2020, the first year of the COVID-19 pandemic, based on the US mortality data from the National Center for Health Statistics. The number of opioid overdose deaths increased 38% in 2020, with a 55% increase in deaths involving synthetic opioids such as fentanyl. There were similar increases in the number of deaths in which alcohol contributed to overdoses of opioids (40.8%) and, specifically, synthetic opioids (59.2%). In view of this report there is substantial evidence of deteriorated drinking habits during Covid pandemic.

## CONCLUSION

Further studies need to be undertaken to fully understand the impact of Covid on our eating and drinking habits. In the future there will be data on post Covid habits, which can be compared with pre Covid habits and then I think we can have a clear picture of how Covid impacted our habits. I think it is still a bit early to fully understand how Covid has impacted us in general, and our eating and drinking habits in particular.

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WHO website- <https://www.who.int/health-topics/coronavirus#tab=tab_1>

Figure 1: Timeline Comparison- Cases, deaths, and hospitalizations data

<https://coronavirus.jhu.edu/region/united-states>

Figure 2: Google Trends of readymade meals related searches

<https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=ready%20to%20eat,ready%20to%20cook,easy%20meals,frozen%20food&hl=en-GB>

Figure 3: Google Trends of liver disease related searches

<https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=symptoms%20of%20liver%20disease,Hepatologist&hl=en-GB>

Figure 4: Google Trends of liver disease related searches

<https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=fatty%20liver&hl=en-GB>

Figure 5: Google Trends of acid reflux & heartburn related searches

<https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=acid%20reflux,heartburn&hl=en-GB>

Figure 6: Google Trends of weight loss related searches

<https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=how%20to%20reduce%20weight&hl=en-GB>

Figure 7: Google Trends of gym related searches-

[https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=\*best%20gym\*,good%20gym,gym%20near%20me&hl=en-GB](https://trends.google.com/trends/explore?date=2019-01-01%202023-03-29&geo=US&q=*best%20gym*,good%20gym,gym%20near%20me&hl=en-GB)

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