

Covid-19

Introduction

This report is going to be examining the impact of the newly discovered virus, covid 19. It will discuss how the UK government and other governments around the world, including the Chinese government (the country that discovered the virus) have tried to control the spread of the virus, though various public health policies. It will also discuss how these policies have had a particular impact on certain groups in society, discussing the impact on care home residents, students and those who work. Strategies of surveillance and monitoring will also be examined, based on how beneficial these approaches have been to reducing the rate of infection. Finally, the report will also examine the potential vaccines many pharmaceutical companies have recently announced, breakdown both their strengths and weaknesses, and whether or not there are potential recommendations that the government should have implemented to help the rising number of cases in the UK.

Background

Covid 19, a newly developed infectious disease caused by a recently discovered branch of the coronavirus, has caused a monumental change in current society, on a global scale, with a world total of more than 50 million deaths, with the UK being at 1.40 million cases (WHO, 2020). On the 30th January 2020, the World Health Organisation and their International Health Regulations Emergency Committee, declared that the outbreak of the virus was a 'public health emergency of international concern, leading to the outbreak being labelled as a pandemic in 3 months later in March (aapmr, 2020). The most common symptoms of this infection include: a high temperature, a loss to taste or smell as well as a heavy, continuous cough (NHS, 2020). Many countries found similarities in the age groups that were most affected by the virus. An example of this is how In China, 87% of coronavirus cases were between the age of 30 to 79 years and 3% were aged 80 years or older (*China CDC Weekly*, 2020), as well as the median age of patients in the UK being 73 years (Docherty et al, 2020)

One of the main issues identified, revolving covid19, was the impact it had on care homes and care organisations. The issues surrounding how fast the virus spread, as well as the policies made to retaliate the virus, had a huge impact on the livelihoods of the elderly, especially those who were stuck in the environment of a care home during nationwide lockdowns.

Strategies: Monitoring, Measuring and Control

Epidemiologists are working around the clock to ensure all cases of COVID-19 are being accurately reported and monitored. They are constantly conducting analysis and interpretations of health data, public health surveillance, as well as systematic collection of data. Through repeated surveillance of the virus, specialists are able to work out the: number of new cases over a specific period or point in time, number of cases in hospitalisation, as well as the number of cases resulting in death (cdc.gov, 2020).

In the UK, on the 12th October, the Prime Minister, Boris Johnson, announced a new 3 tier system that will help monitor the rise of COVID-19 cases across the UK (Lacobucci, 2020). In his speech, Johnson set out his plans to grade all areas of the UK as medium, high or very high alert, according the the level of risk (gov.uk, 2020). The system allowed for strict rules to be placed on all the factors that have lead to a rise in cases. Examples of these include weddings and funerals, public transport, exercise as well as care home visits. However this system did not take place without its flaws. One weakness of this system was that it did not have the support of many people of power around the UK. An example of this is how the mayor of Greater Manchester, Andy Burnham, explained how the new covid system

was “fundamentally flawed”, as it would have brought financial harm to certain areas of Greater Manchester. This criticism and lack of commitment, resulted in many UK citizens not respecting the new system, allowing for rules to be broken easily. Another reason why the tier system is flawed is because of the confusion based around which tier everyone is in. A huge outcry began when UK citizens were unable to identify if their city was a hotspot, due to the fact that the government had not launched a postcode checker. This meant that there was a lot of speculation over the rules of the tiers, resulting in many people breaking them, for example going to the pubs after 10pm or meeting up with people from different households.

However, many other countries have been more effective and successful, when it comes to monitoring the virus. Countries in the East of Asia have used their high technological equipment to their advantage to aid the government in managing the location of citizens who have been infected by Covid 19. An example of this is provided by China, who have used their popular facial recognition cameras that use thermographic technology to help identify the temperature of different people. This specific approach has been useful in allowing many people to be tested at one time, which has been proved to be very time effective. However, other strategies used by the government, like using drones to enforce the lockdown or quarantines, have been criticised to be invasive of people's private lives, and therefore too controlling. Another strategy that has been critiqued for its invasive ways is South Korea's phone locating approach (Whitelaw et al, 2020). In theory this approach has helped to monitor and control the virus as it has allowed the government to alert anyone if they come in contact with a Covid 19 patient. However, many countries in the West have rejected this technique as it takes away the privacy from the lives of people in their country. On the other hand, it has still not stopped countries like Russia and Iran from, adjusting their surveillance by using similar location tracking technology.

Public Health Policies: Reducing and Controlling

Several governments and authority figures around the world, have come together to help reduce the effects and spread of the virus using many different strategies and approaches. One of these strategies included educating the general public on the extent of danger and harm the virus has brought about, and how it has potential to cause disruption to their livelihoods in the future. An example of this is how in one of China's biggest global financial hub cities, Shanghai, many educational and informative TV shows and online computer courses were made and available to all, in order to educate the public on how to keep themselves and their family safe during the lockdown. There were also several conferences that discussed the virus, that were repeatedly conducted on a daily basis in order to keep the public highly informed on the rise of cases (Shanghai.gov, 2020). Certain online courses, some reaching high number of around 600,000 viewers, taught the public effective techniques of disinfecting and cleaning their surfaces in order to prevent the spread of the virus further (Shine, 2020). One strength of the TV programs being launched in Shanghai, was the fact that the latest news of Covid 19 was spread to thousands of households, allowing many different families to understand the implications of breaking the strict rules of the lockdown. However, one negative aspect of this policy, is how many families who could not afford the expensive technology in their homes, were unable to watch the programs, leading to a wide range of families, across the city, missing out on vital information about the virus. However, this problem was also later combated by the Chinese government, by broadcasting informative messages that helped prevent the spread of the virus, on exterior lighting of high-rise buildings, allowing for a wider range of the population to understand how to keep each other and themselves safe.

In the UK, there has also been many useful strategies that have been implemented to help reduce the expansion of the virus. On March 23 2020, the UK government placed the entire country into a nationwide lockdown, consisting of the closing down of schools, restaurants, pubs and gyms, for the duration of 5 months. In order to keep children as safe as possible, as well as productivity and motivation high, schools had the option to remain open for the children of key workers, with up to 2% of children still attending school during the lockdown (UNESCO, 2020). One benefit of shutting the schools during the lockdown, was that the infection rates were dropped by half, allowing for a clean transition back into schools in September (Matzinger and Skinner, 2020). However, one negative aspect of this strategy, was the fact that many students were unable to complete their school work, due to ineffective online teaching methods. This further harmed student who would take their exams in 2021, as it means that they are currently behind on a lot of their work, resulting in a lot of speculation around the topic of exams occurring next year and reduced content. A second strategy that was useful in reducing the spread of the virus was to limit the amount of people that could see or meet each other. From the 14th September, it became illegal in the UK, for groups above six people to meet up, given that they were not from the same household. A positive aspect of this strategy, is the fact that a fine of £200 was given to people, if they committed the offence of meeting up in large groups for the first time, with an increasing rate if the rule was broken on multiple occasions. This meant that majority of the public followed the 'rule of six', as it meant they would actually lose something in the process of breaking the rules. However, one criticism of this strategy, would be how the government were very inconsistent when it came to the locations that supported the rule, meaning a large amount of the popularity didn't take it seriously. An example of this is how within schools and workplaces, employees, teachers and students were still able to meet in large groups without any repercussions, allowing for the effectiveness of the strategy to decrease long term.

Even those majority of the public health policies have been created for the protection of society, many of them have brought disruption and chaos to the livelihoods to those exact people. During the start of May, it was officially published that deaths in the UK hospitals had been reduced from 9,434 at the start of April, compared to a lower result of 6,397 at the end of April. However, even though this should be celebrated, there was a simultaneous increase of deaths in care homes with a total of 6,409 deaths at the end of April, passing the death toll of those in the hospital. There have been many reasons why this may have occurred, starting with the horrific fact that many care homes across the UK, lacked support from the government during the highs of the pandemic. This is clearly evident through the lack of PPE (Personal Protective Equipment) that was available, meaning many elderly and staff were put into harm's way, placing them at high risk of catching the virus. It also resulted in many care homes having to buy their own PPE, at higher, inflated prices, due to the fact that the equipment was not given at efficient amounts, with one carer stating how she needed 35,000 masks a week, but only receiving roughly 400 (theguardian, 2020). It has also been said the UK government had implemented the lockdown too late. This late reaction, resulted in many care home residents being exposed to the virus through regularly visiting family members and staff, further increasing the vulnerability of all members in the care home.

Clinical Research on Potential Vaccines

Research on potential vaccines for COVID-19 started on a global scale, ever since the real extent of the virus was announced. However the only real breakthrough results have been shown in recent times. The first vaccine was created by Pfizer, an American pharmaceutical company. After versions clinical trials, the vaccine was shown to prevent more than 90% of participants from developing the virus, as well as being able to provide protection for 94% of adults over the age of 65 (bbc, 2020). In order to maximise immunity, the dosage would be given in twos, repeating every three weeks. The

safety concerns have also been very low, with 43,000 people taking the vaccine, and being left with no major safety risks. One special factor of this vaccine, is its use of RNA, where small fragments of the virus's genetic code is used, to start making parts of the virus in the body. The immune system will then proceed to attack the virus, as it detects it as potentially harmful and foreign.

However another company, Moderna, have also started clinical trials for a potential vaccine, taking a similar approach to that of Pfizer's. The vaccine is proved to have a 94.5% protection rate, giving the same two doses to the patients, however it will be over four weeks apart. One positive aspect of Moderna's vaccine compared to Pfizer's, is the fact that it is easier to store. The Pfizer vaccine has to be stored at a -70C, on the other hand the Moderna vaccine remains stable at a temperature of -20C, lasting up to 6 months.

Recommendations

In order to improve the control of the virus, the government should pay more attention to public places. This is because the closing of restaurants, pubs, schools and gyms have always been implemented at a later date than it should, resulting in potential cases occurring, which could have been easily prevented. In order to do this, the closing time of public places should be at an earlier time, rather than 10pm, encouraging more people to stay in doors then go out in the evening. Another recommendation is for the communication for care home residents and those in the hospital to be improved. This means that those infected in isolated areas will be able to speak to their family members or friends, allowing their mental health to improve. This can be especially true for care home residents, who have been hugely impacted by being unable to meet their family during the highest peaks of the lockdown, leading to many of them going in to deep depression or anxiety.

Conclusion

Overall, it is very clear to see that covid 19 has impacted the lives of those all over the world, negatively, through causing constant disruption to their livelihoods. Unfortunately, it is also clear how the spread of the virus, especially in the UK, has increased due to the fact that the government has been able to implement effective policies that will help monitor and control the virus. However, due to the recent developments in clinical trials, potential vaccines have been announced, all having at least 90% protection, leading to many people gaining hope for the future of their jobs, education and their lives.

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