

PARENTAL DEPRESSION DURING THE PANDEMIC
IN THE UNITED KINGDOM
- AN OVERVIEW

TABLE OF CONTENTS

1. Summary
2. Loneliness
3. Homeschooling
4. Worried about children returning to
school
5. Availability and increase in prices of
childcare products
6. Depression of parents over the years
7. Conclusion
8. References
9. Appendix



SUMMARY

The spread of the coronavirus has caused many adverse effects and damage to the human kind. Almost all of us have felt mentally distressed due to one reason or the other. It was either due to the losing or almost losing a loved one or due to loneliness or feeling claustrophobic.

Parenting in general can be very stressful and challenging at times. It is very difficult to manage multiple things and multi task at the same time with kids around. With the pandemic shutting off daycares, schools and colleges, the burden of nurturing, teaching and taking care the children has completely fallen on the parents' shoulders. With almost all of the parents having full-time jobs, it is very stressful overall to manage the child's education, well-being and also working from home.

	Improvement of symptoms	moderate to severe depressive symptoms	experience no or mild depressive symptoms	experience moderate to severe depressive
	Estimate (%)	Estimate (%)	Estimate (%)	Estimate (%)
My health is being affected	30.4	19.2	6.7	33.3
My work is being affected	36.8	46.4	41.2	24.9
Schools and universities are being affected	23.1	39.1	27.2	20.7
Household finances are being affected	24.8	28.0	19.7	31.5
My well-being is being affected	65.2	85.0	38.1	69.7
Lack of freedom and independence	58.1	61.1	58.3	49.4
My relationships are being affected	39.0	49.0	19.9	28.2
My caring responsibilities are being affected	2.1	11.4	11.9	14.0
My access to paid or unpaid care is being affected	5.9	7.3	2.0	7.3
My exercise routine is being affected	21.9	37.8	28.4	23.4
Availability of groceries, medication and essentials are being affected	36.1	27.3	21.0	57.5
Access to groceries, medication and essentials are being affected	19.9	22.5	18.7	38.7
Access to healthcare and treatment for non-coronavirus (COVID-19) related issues is being affected	31.6	34.6	21.0	36.2
Transport is being affected	12.7	20.9	10.1	13.3
Personal travel plans are being affected (for example, holidays and gap year)	22.4	49.3	51.8	28.5
Work travel plans are being affected	0.8	7.8	10.7	5.0
Life events are being affected (for example, weddings and funerals)	32.0	48.0	35.1	47.2
I am unable to make plans	36.9	48.1	53.4	45.9

Table 1 – Reasons for depression among parents

The above table shows a comparison how various reasons have contributed to adults with at least one child are getting mental health issues. It can be observed that:

- Almost 60% of the sample agrees that their well-being is affected. With more than 85% facing severe symptoms.
- More than 50% of the sample feels that they have lost their freedom.
- Around 40% have lost their work-life balance.
- Around 30% find it difficult to find groceries and other essentials.
- Further, for a few of them their caring responsibilities and access to care is affected causing mental distress.

This report is an analysis of how the above-mentioned factors influence the mental health of parents with at least one child over the period of the pandemic.

The main reasons taken into consideration for parental depression are loneliness, homeschooling, worry of children returning to school availability and increase in price of basic childcare products. An overall analysis of each factor is done separately to find out whether they are leading to mental health problems in parents across the United Kingdom or not.

LONELINESS

The pandemic has caused most of us to stay indoors and there is limited or almost no access to socializing. For parents with toddlers and young children, it is very difficult to keep them at home all day. Further, shutting down of parks and other public places has made it very difficult to manage the work, household chores by keeping the children busy all the time. Many have opted to exposing their child to unlimited screen time at a very young age just to keep them engaged and avoid tantrums which might have adverse effects in the future.

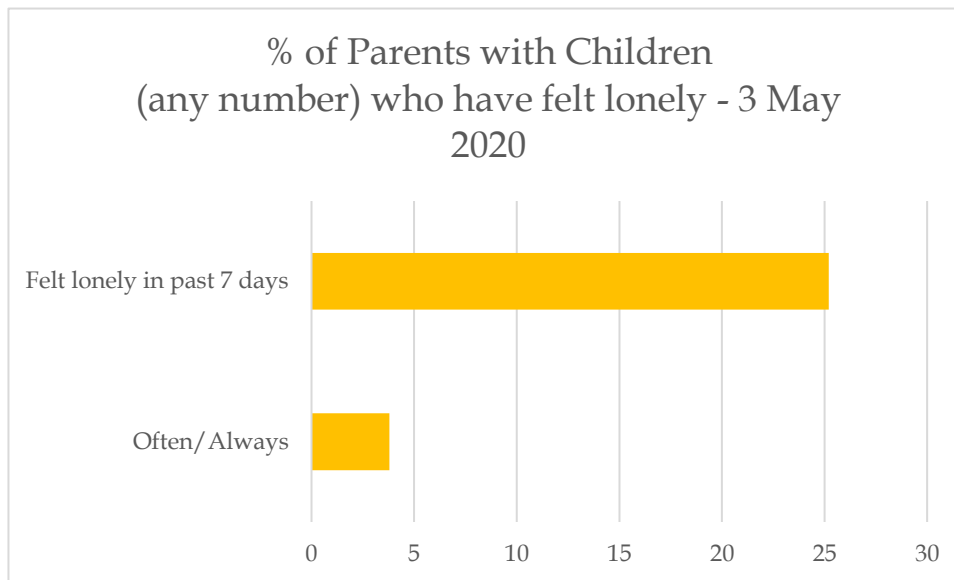


Figure 1 – Percentage of parents who have felt lonely overall and in the past 7 days.

In a survey conducted in 2020 during the pandemic by the government of UK among parents, it is seen that the percentage of parents feeling lonely in recent times is almost 5 times the percentage of parents feeling lonely in general.

On an average among the 550 parents almost 139 of them have said that they experience loneliness during the recent times since the lockdown. Although, among the 1070 parents only 41 of them have mentioned feeling lonely in a general basis. This might be due to spending endless hours with the kids on either their education or working from homes making no room for actual conversations with a partner or a loved one either in person or through call. Further,

In the chart below, a comparison regarding how parents with at least one child spend their time (in minutes) on day-to-day activities in 2015 (before the pandemic) and 2020 (during the pandemic).

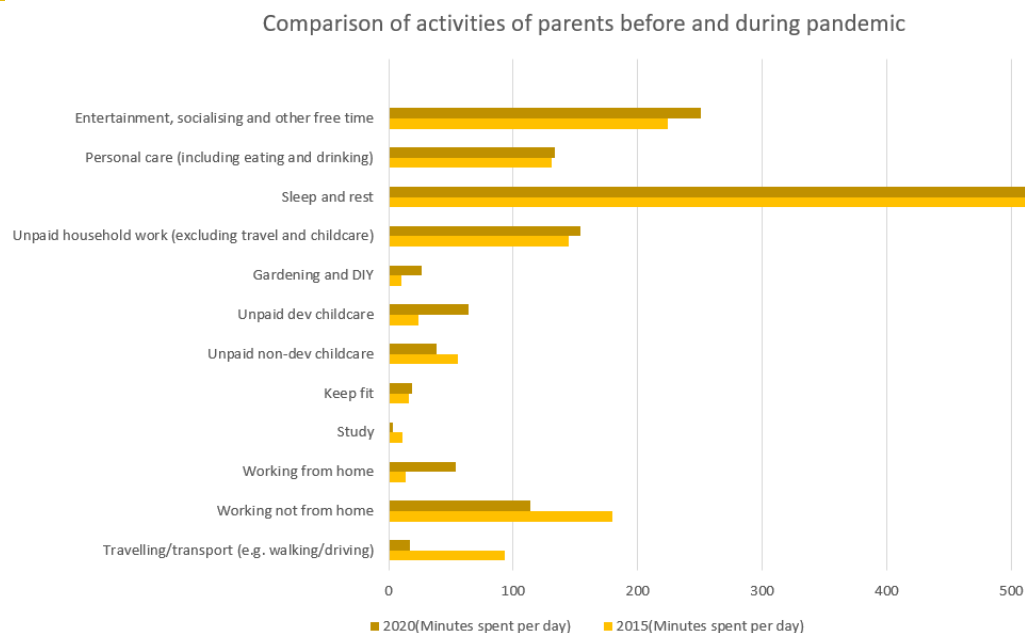


Figure 2 – Time spent on day today activities (in minutes) by parents – 2015 vs 2020

From the above chart, the following can be observed:

- The time spent by parents on developmental childcare which includes teaching and homeschooling has seen an increase almost two times in 2020 than 2015.
- The time spent working from home on the other hand, has increased almost three times in 2020 compared to 2015.
- Also, the time spent on other household chores have also shown a slight increase in 2020 compared to 2015.

HOMESCHOOLING

Schooling is a vital part of any child's life. It not only helps them learn from the books, but also helps them to multitask, build a routine and get used to it from a very young age. It also helps them to meet new people from different groups of the society, socialize and teaches them how to communicate. Further, kids tend to learn teamwork and basic life skills by mingling with other students.

For parents with children going to school or daycares it is easy to set-up a schedule and have good-work life balance. It also gives them ample time to focus on their personal lives such as career and other social activities. Since the pandemic has started, "homeschooling" is become very common and gone are the days where children used to wear uniforms and wait for school buses in early mornings. Although this might seem as a relief for some parents who are worried about the pandemic, it is not possible to give the child all the experience he or she might get if they were at the school physically by homeschooling. Further, as the parents are not as trained and experienced as

the teachers, it will be stressful to teach them each and every day with their professional lives hand in hand.

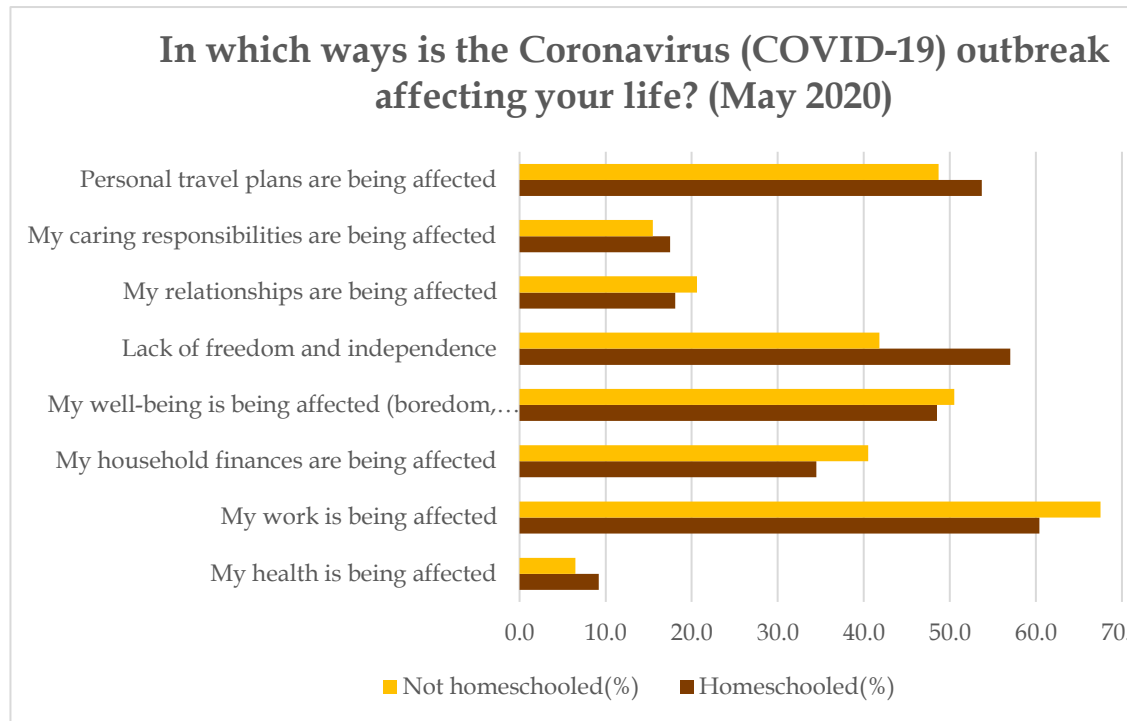


Figure 3 – Coronavirus and how the lives of parents is affected based on kids either homeschooled or not

From the above graph, the following conclusions can be made:

1. For the parents who have children that are been homeschooled, almost 55% of them feel that they have lost their freedom and independence. This is because when the children are homeschooled, the parents have to set up an entirely different routine revolving around the kids.
2. 50% of the parents feel that their well-being is affected. They have felt bored or lonely.
3. Further, over 50% of them had to cancel their travel plans to take care of their child's education.
4. Over 60% of the parents feel that their work is being affected. This might be due to the fact that children under homeschool require constant attention while being taught. This will consume most of the day, hence, adversely affecting the time parents spend on office related work or household chores. As a result, the household finances are affected (over 30%).
5. Also, almost 10% of the parents feel that their health is being affected when the children are homeschooled.

Further, according to this survey, only 49% of the parents were confident that they can homeschool their children. Surprisingly, 43% of the parents feel that homeschooling has negative effect on their child or children. Also, 25% of the parents feel that homeschooling will negatively affect their jobs.

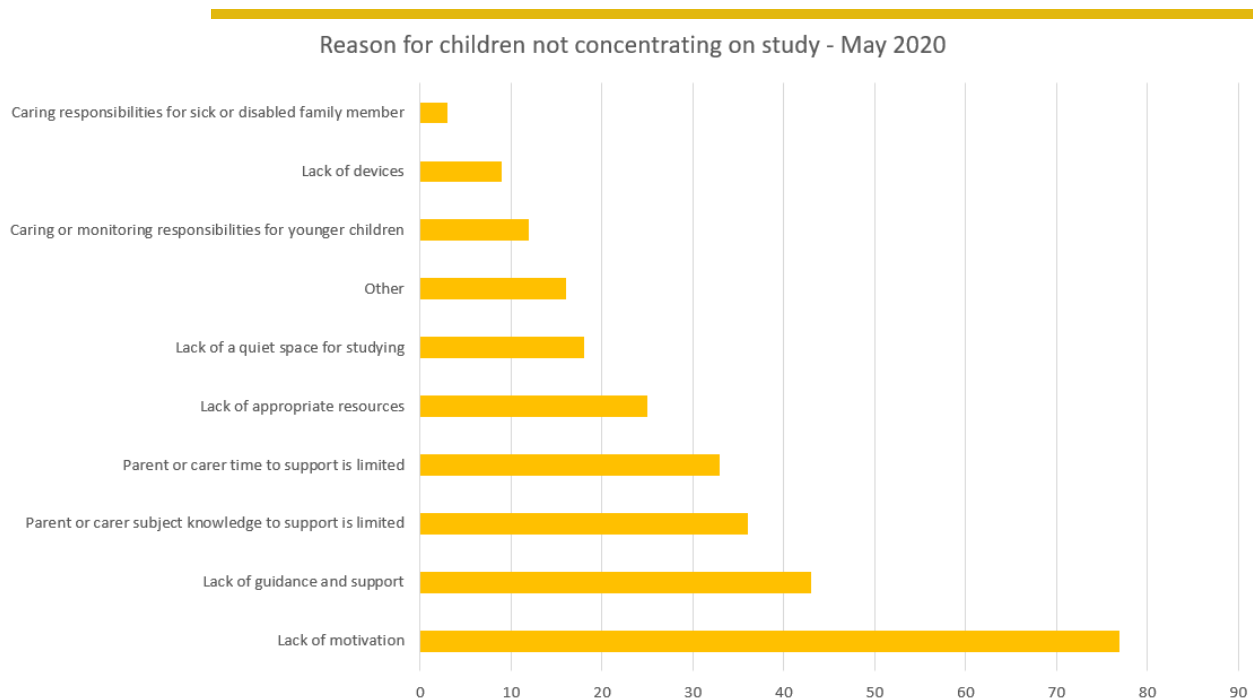


Figure 4 – Reasons for children not able to concentrate when homeschooled

The above chart is a representation of why students were not able to concentrate on the studies when schooled by their parents at home. Among the sample, over 75% of the children have found to have no motivation towards studies. The amount of concentration and discipline a student will have when sitting in a class will never be achieved through distance learning. Further, over 40% of the student do not have proper guidance or support. Further, around 35% children are not able to concentrate as their parent or guardian are not able to spend the required time to educate them. Most of the parents are working from home or need to handle other household chores such as taking care of another child or cooking etc., and this will have an effect on the child's schooling as children unless they reach a certain age, they are playful and refuse to even sit idle.

School has ample resources to study, play and grow. When schooled at home, almost 25% of the students lack resources to study. And, almost 18% of the children do not have a quiet and calm environment in their households that would help them focus on studies. Hence, in a long run the quality of homeschooling would deteriorate which will in turn result in parental depression.

WORRIED ABOUT CHILDREN RETURNING TO SCHOOL

Although going to school is a vital factor for the child's life and career, not all parents are interested in sending their kids back to school again. With a deadly pandemic that has made us question every single aspect of our day-to-day activities, making our lives upside-down, any parent would think more than twice to let their kids go out and socialize. As their immune system is not strong enough to fight the infection and with the vaccines only being rolled out for adults and adolescents, parents prefer not sending their children back to school.

Have any of the children or young people in your household recently gone back to school or college?

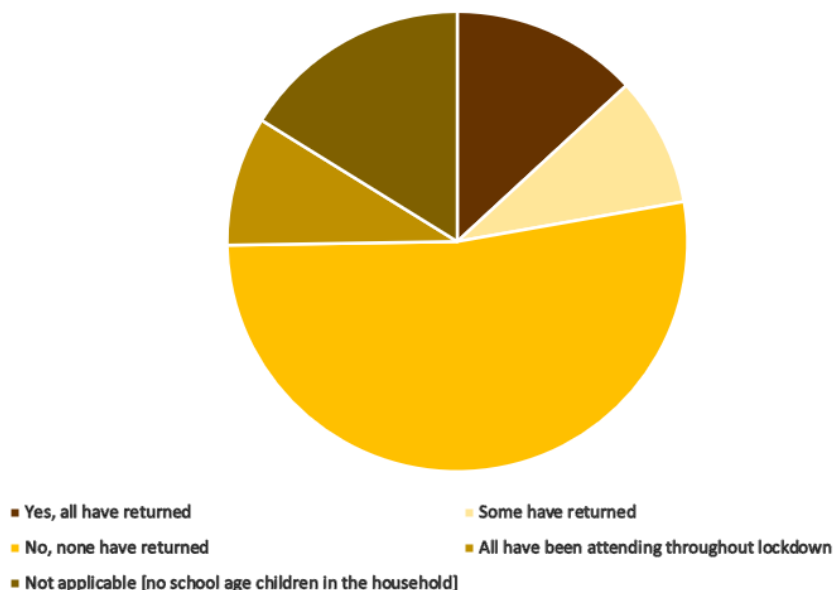


Figure 5 - Pie chart showing the percentages of children returned to school.

In a survey conducted in March 2021, it is seen that more than half (52%) of the students have not returned to schools. With only 13% of the students that have returned to schools and only 9% of the sample attending school even during the lockdown, it is evident that the parents are not yet comfortable sending their kids back to school.

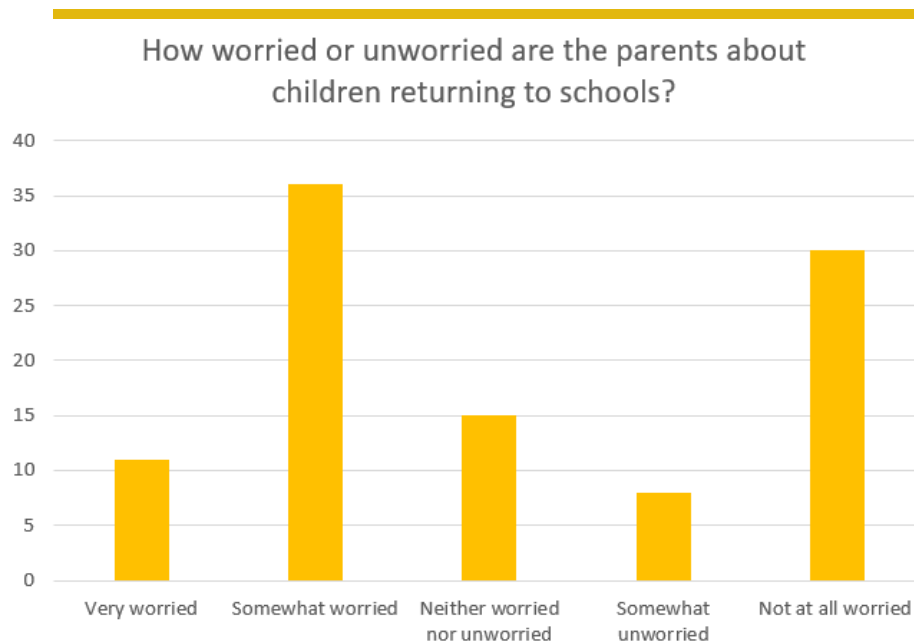


Figure 6 – How worried or unworried the parents are about sending their kids back to school

From the above analysis, it is evident that only 30% of the parents are fully confident in sending their child back to the school. Almost half of the sample considered are either very worried or somewhat worried and not ready for the schools to reopen.

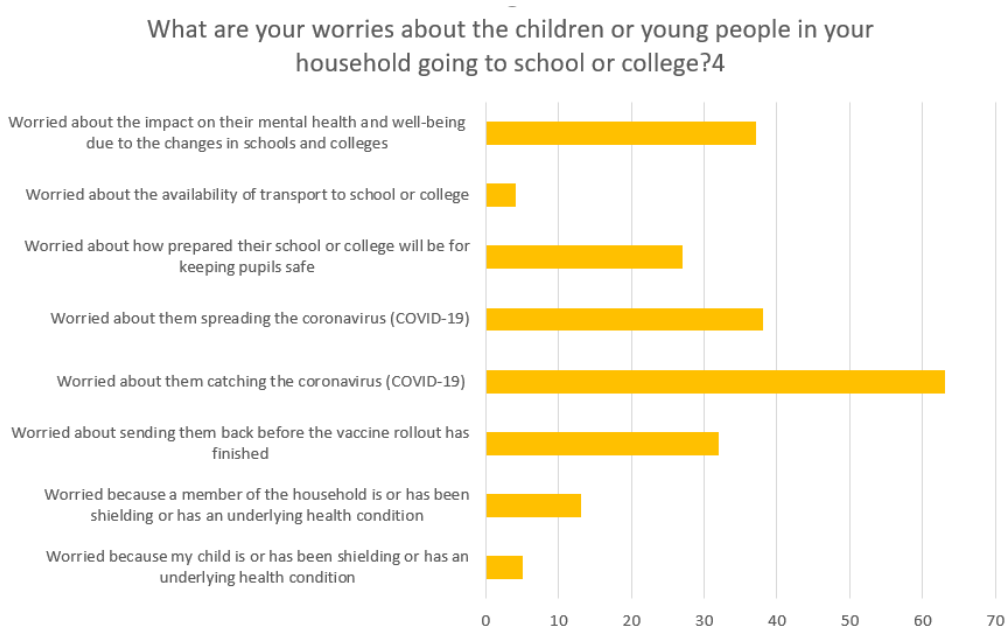


Figure 7 – What are the parents worried while sending their kids back to school

More than 60% of the sample considered says that they are worried about sending their kids catching the infection and almost 40% are worried about the mental health of the students due to the new normal.

AVAILABILITY & INCREASE IN PRICES OF CHILDCARE PRODUCTS

Stocking up of essentials has become a regular practice since the pandemic has taken over. Although this factor has not only affected parents particularly, it can be distressing to not be able to buy day to day essentials like diapers. People with children at home are worried that they might run out of basic essentials such as baby food, nappies and toilet papers and might be difficult for them to find them at stores later. Further, not many are comfortable going out in the public often due to the fear of getting affected. Also, most of the lockdowns are imposed by the governments in neck of the moment. Also, due to abnormal purchase of essentials by the public, the prices of the day-to-day essentials have seen quite some fluctuations.

After analyzing the prices of childcare essentials such as wipes, milk, sanitizer, handwash, nappies, wipes, baby food and cough medication, it is found that most of the products have shown very mild fluctuations in price which can be neglected. Further, most of the products such as milk and sanitizer have shown decrease in price which is a good sign. However, two vital essentials – cough medication and wipes have shown gradual increase in price on a weekly basis.

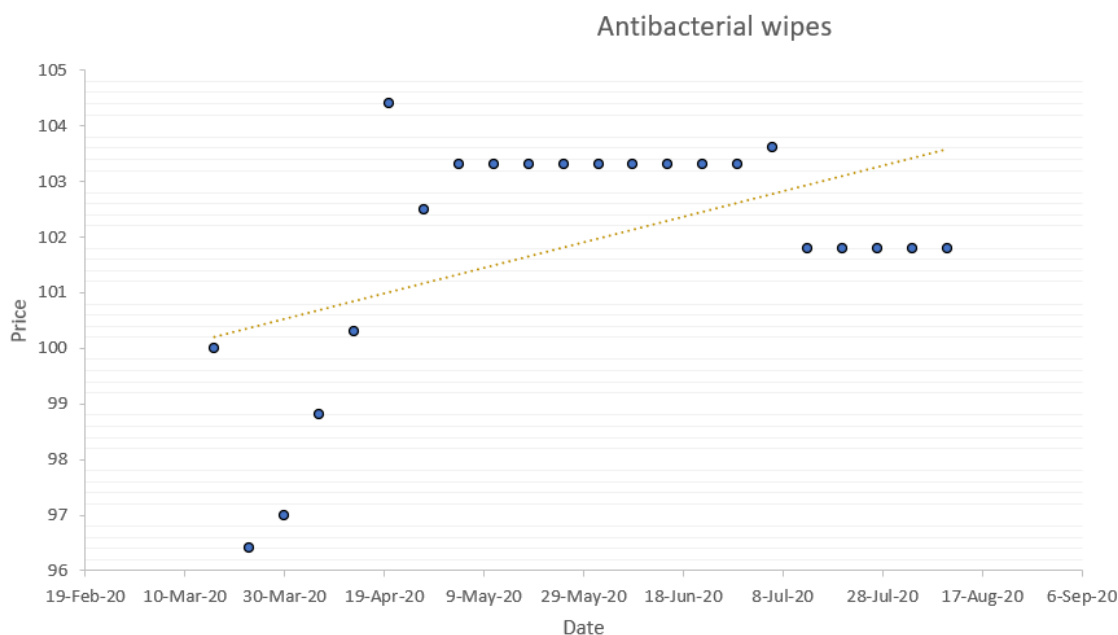


Figure 8 – Price increase of antibacterial wipes

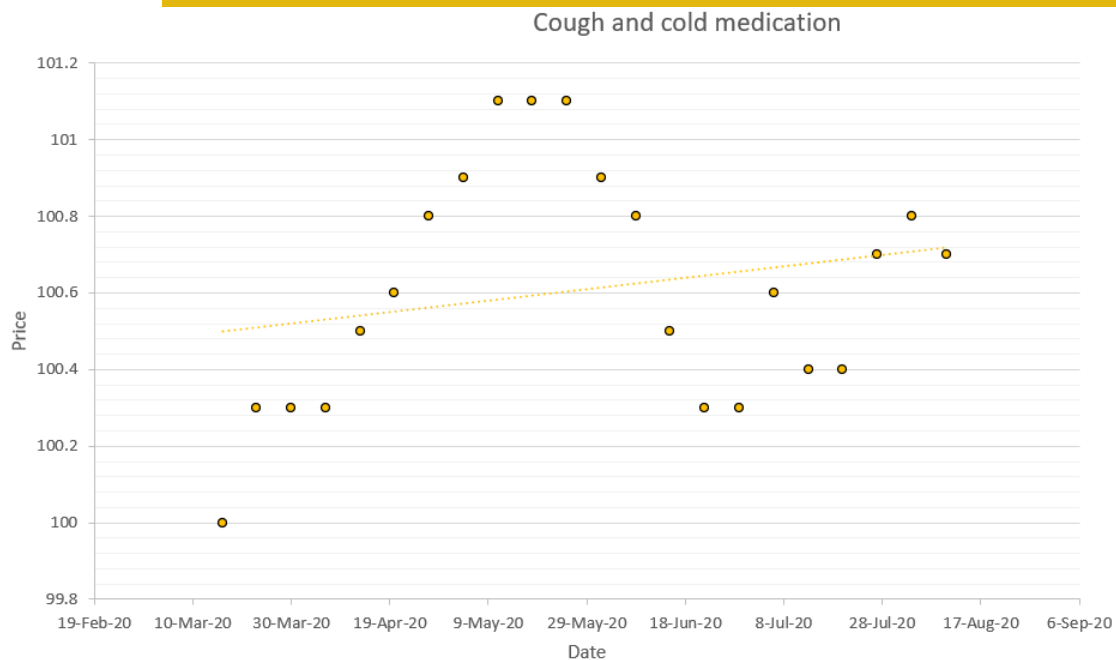


Figure 9 – Price increase of cold and cough medication

With predictive analysis it is found that the prices of both these commodities will continue to increase and by 31 Jan 2022, the wipes would cost around 116.81 and cough medication would cost around 102.22 (considering 100 as the start value in both cases).

DEPRESSION OF PARENTS OVER THE YEARS

The pandemic has been a tough time for all of us and especially stressful for parents. With multiple factors influencing their mental health, the pandemic has taken a toll on their mental well-being. Although, the various factors assumed to cause parental depression have been discussed, it is important to analyze the history data. Below is a table that classifies the percentage of depression, from July 2019 to August 2021, faced by parents with at least one child under 16 years.

Depressive symptoms of adults before and during the coronavirus (COVID-19) pandemic			
At least one child under the age of 16 in household			
Great Britain, July 2019 to August 2021			
July to August 2021			
Weighted count	Sample size	No or mild symptoms	Moderate to severe symptoms
		Estimate (%)	Estimate (%)
13,279,931	2,400	83	17
January to March 2021			
Weighted count	Sample size	No or mild symptoms	Moderate to severe symptoms
		Estimate (%)	Estimate (%)
13,878,387	5,500	77	23
November 2020			
Weighted count	Sample size	No or mild symptoms	Moderate to severe symptoms
		Estimate (%)	Estimate (%)
14,158,660	2,550	80	20
June 2020			
Weighted count	Sample size	No or mild symptoms	Moderate to severe symptoms
		Estimate (%)	Estimate (%)
13,031,887	430	80	20
July 2019 to March 2020			
Weighted count	Sample size	No or mild symptoms	Moderate to severe symptoms
		Estimate (%)	Estimate (%)
12,982,747	430	94	6

Table 2 – Depression estimates of parents with at least one child below the age of 16

From the above table the following inferences can be made:

- In July 2019 when everything was functioning normal, there is very less estimate of moderate to severe depression symptoms among parents (6%). The majority of the sample considered (94%) have shown either no or only very mild symptoms of parental depression.
- In June 2020 and November 2020, when the spread of the virus was at peak, making everyone confined to their homes leading to working from home and homeschooling, the percentage of parents experiencing severe symptoms has gone up to 20% from 6%. The same result is seen in both the cases considered in 2020 even though the sample considered in both cases have a vast difference.
- In the beginning of 2021 (January to May), the percentage of parents facing severe depression symptoms has further gone up to 23% from 20%. The sample considered in this case is the biggest one among all the samples.
- Finally, in the sample taken in the second half of 2021 (July to August) where people were used to staying in homes and adjusted to the new normal, the severe parental depression percentage has fallen to 17% from 23%. Also, 83% of the parents do not feel depressed. This is a 6% rise from the previous sample indication positive change.

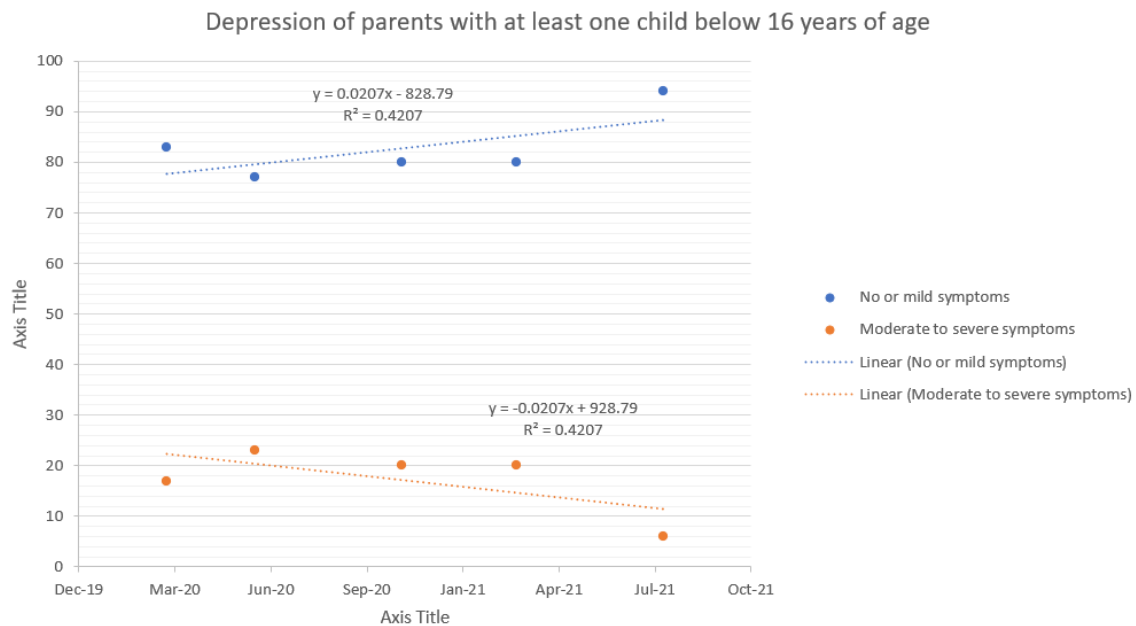


Figure 10 – Regression analysis of depression variables.

The above graph shows the regression analysis for the data in Table 2. The regression lines and the $y = mx + c$ equations have been solved and the R^2 value is found.

- The regression line plotted for the values that represent no symptoms of parental depression over time show slight positive correlation. Also, the slope is positive and the constant value is negative in this case.
- On the other hand, the regression line plotted for the values that represent mild to severe symptoms of parental depression over time show slight negative correlation. Also, the slope is negative and the constant value is positive in this case.

Hence from the above two observations it can be said that as the time variable increases or as the time passes, the percentage of parents experiencing no or mild depression might increase and the percentage of parents experiencing severe depression might decrease. This is a good sign with the cases considered as currently due to the spread of the pandemic and lockdown, parental depression is rising day by day.

Further, the value of $R(\text{squared})$ is 0.4207. Hence, by taking its square root the value of R is 0.6486. This parameter is known as the coefficient of correlation and helps to determine the type of correlation between the variables under consideration. The value of R needs to be as close to 1 to prove a positive correlation between the variables. In this case, the two variables moderately correlated.

CONCLUSION

From the above analysis of the various parameters that have been assumed to contribute to the parental depression during the pandemic, the following can be concluded:

- Loneliness and loss of work-life balance – It is evident from the graph that more parents are feeling lonely recently. Further, compared to data in 2015 and 2020 it is seen that most of them spend more time on developmental child care. Thus, loneliness is a major factor leading to depression but work-life balance may be not as it is further influenced by multiple parameters.
- Homeschooling – From the comparison data it is seen that most of them have lost their freedom, sense of well-being and health. Also, students tend to not perform to their fullest when studying from home. Hence this will eventually lead to distress for the parents. Hence, homeschooling is a major factor for parental depression.
- Almost 50% of the parents are worried about sending their kids back to school and more than 60% of the parents are concerned about their child getting infected. Even if the schools open, this will be a vital parameter for parental depression on a day-to-day basis without the vaccines rolling out for children.
- From the analysis of the cost of prices of childcare essentials, it is found that not many products have increasing prices except for a few of them whose prices are increasing in very small amounts. Hence, this is not a factor of parental depression. However, the stock availability of the same is a major concern as almost 36% of the parents have felt depressive regarding the same. Hence, this causes mild depression in long term and needs to be considered during the analysis.
- From the regression analysis of the values of depression based on the previous year's data its seen that the value of depression with severe symptoms was at peak during the second half of 2020, when the pandemic was at the peak. Eventually the value of severe depression is decreasing with time indicating that the situations are getting back to normal. On the other hand, the value of mild depression seems to increase with time.

Hence, how the above factors considered influence the mental health of the parents to what extent is been analyzed. This also affects the children adversely. Parental depression may cause lack of response to the needs of the child, bizarre parental behaviors such as inattentiveness, insensitivity and might shape a very wrong perception of the world in the minds of the child.

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APPENDIX

The idea of the report is to analyze data about Loneliness, homeschooling, parents view on children returning to school and price fluctuations of products and prove that the above-mentioned are prime factors for parental depression during the pandemic.

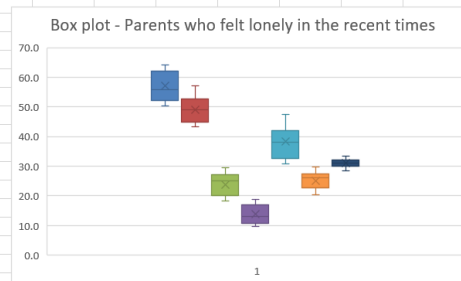
Data Source:

- Depression – [Coronavirus and depression in adults in Great Britain - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusanddepressioninadultsinGreatBritain/latest)
- Loneliness – [Coronavirus and loneliness - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusandloneliness/latest)
- Homeschooling – [Coronavirus and homeschooling in Great Britain - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/articles/coronavirusandhomeschoolingingreatbritain/latest)
- Parents opinion on children going back to schools – [Worries about return to school or college - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/articles/worriesaboutreturntoschoolorcollegelatest)
- Prices of products - [Online price changes for high-demand products - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/economy/priceindices/articles/onlinepricechangesforhighdemandproducts/latest)

Analyzing Loneliness data

% of Parents with Children (any number) who have felt lonely - 3 May 2020	Children (any number)	Number
Often/Always	3.8	41
<i>Lower 95% Confidence Interval</i>	<i>2.3</i>	<i>25</i>
<i>Upper 95% Confidence Interval</i>	<i>5.3</i>	<i>57</i>
<i>Sample size (rounded)</i>	<i>1,070</i>	
Felt lonely in past 7 days	25.2	139
<i>Lower 95% Confidence Interval</i>	<i>20.5</i>	<i>113</i>
<i>Upper 95% Confidence Interval</i>	<i>29.8</i>	<i>164</i>
<i>Sample size (rounded)</i>	<i>550</i>	

Felt lonely in past 7 days	1 adult aged 16-64	1 adult aged 65+	2 adults aged 16-64	2 adults of which at least 1 aged 65+	3 or more adults	Children (any number)	All People
	50.3	43.2	18.2	9.8	30.8	20.5	28.4
	50.3	43.6	18.6	9.9	31.2	20.6	28.9
	51.2	44	19.2	10	31.8	21.2	29
	51.6	44.8	19.8	10.3	32	21	29.2
	51.9	44.9	20	10.5	32.5	22.3	30
	52.5	45	20	11.2	32.6	22.9	30
	53.6	45.8	21.5	11.6	35	23	30.2
	53.8	46	22	11.6	36.2	23	30.4
	54.2	47.2	22	12	36.5	24.6	30.5
	54.9	48	23	12.3	36.7	26	30.9
	55.9	49	25	13	38	26.3	31
	56.6	49.6	25	14.6	39.2	26.5	31.1
	58.6	50.2	26	15.6	41	26	31.2
	60.6	50.2	26	16	41.9	27	31.4
	60.9	51.4	26.2	16.8	42	27.2	31.5
	61.2	52.6	27	17	42	27.6	32
	62.8	53	27.1	17	42.1	27	32.4
	63.7	53	28	18	45.2	28	32.6
	63.9	56	28	18.6	46	28.2	32.9
	64	56.6	29	18.7	47	29	33
	64.1	57.1	29.4	18.8	47.5	29.8	33.5
Mean	57.2	50.1	23.8	14.3	39.2	25.2	30.9



Analyzing Homeschooling data

In which ways is the Coronavirus (COVID-19) outbreak affecting your life? ¹
Great Britain, 7 May to 7 June 2020

For parents who had at least one dependent child aged 5 to 18 years living in the household:

	Homeschooled(%)	Not homeschooled(%)
My health is being affected	9.2	6.5
My work is being affected	60.4	67.5
My household finances are being affected	34.5	40.5
My well-being is being affected (boredom, loneliness, anxiety and stress)	48.5	50.5
Lack of freedom and independence	57.0	41.8
My relationships are being affected	18.1	20.6
My caring responsibilities are being affected	17.5	15.5
Personal travel plans are being affected	53.7	48.7

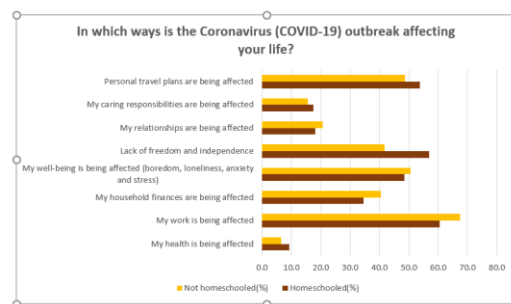
Weighted count 8,929,315 1,381,818
Sample size 770 110

For parents in employment who had at least one dependent child aged 5 to 18 years living in the household:

In which ways is the Coronavirus (COVID-19) outbreak affecting your life?		
My work is being affected	65.5	80.4
Weighted count	7,577,768	1,058,810
Sample size	650	90

Source: Opinions and Lifestyle Survey (COVID-19 module), 7 May to 7 June 2020

Notes



Analyzing parents' opinion on children returning to school

Have any of the children or young people in your household recently gone back to school or college?

How worried or unworried are you about the children or young people in your household going to school or college?	All persons total			All persons total													
	%	LCL	UCL	number	LCL	UCL	number	LCL	UCL								
Very worried	11	8	14	72.6	52.8	92.4	72.6	52.8	92.4								
Somewhat worried	36	31	41	237.6	204.6	270.6	237.6	204.6	270.6								
Neither worried nor unworried	15	11	18	99	72.6	118.8	99	72.6	118.8								
Somewhat unworried	8	5	10	52.8	33	66	52.8	33	66								
Not at all worried	30	25	34	198	165	224.4	198	165	224.4								
Weighted count			10,486,559														
Sample size			660							Very worried	Somewhat worried	Neither worried nor	Somewhat	Not at all	Very or somewhat	Somewhat unworried or not at all unworried?	

Very worried	Somewhat worried	Neither worried nor unworried	Somewhat unworried	Not at all worried	Very or somewhat worried	Somewhat unworried or not at all worried ^a
59.5	225.6	81.3	34.9	177	282.9	218.8
61	225.9	81.7	35.2	177	288.7	218.1
61.5	233.7	91.7	41.6	182	305.1	222.9
71.5	234.5	92.5	42.7	183.8	313.2	234.6
71.6	246.1	96.5	49.8	194.6	313.2	236.1
73.1	246.2	101.7	52.4	197.4	319.1	252.4
73.3	258.9	107	54.3	199.9	320.4	259.2
78.6	261.1	110	61.6	204.6	321.3	260
82	266	114.2	64.4	211	326.6	264.7
86.2	266.1	114.9	65.9	223.3	331.4	277.2
						244.75
						244.25



Hand sanitiser

Price

Date

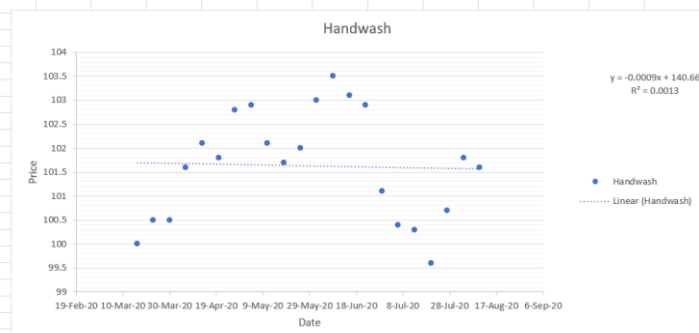
Hand sanitiser

Linear (Hand sanitiser)

$y = -0.0063x + 377.92$
 $R^2 = 0.0726$

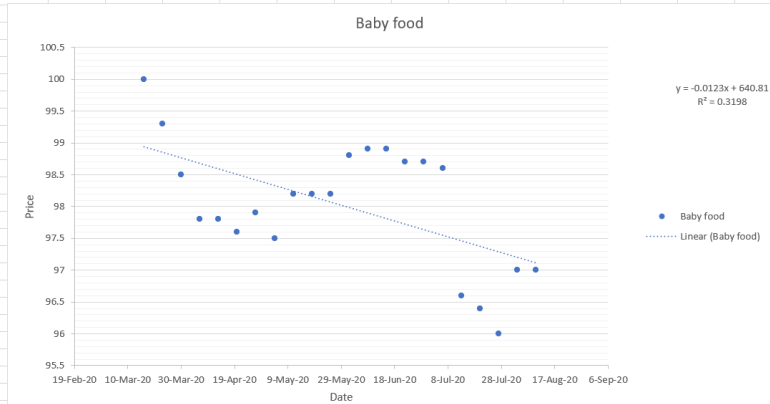
Date	Handwash
16-Mar-20	100
23-Mar-20	100.5
30-Mar-20	100.5
6-Apr-20	101.6
13-Apr-20	102.1
20-Apr-20	101.8
27-Apr-20	102.8
4-May-20	102.9
11-May-20	102.1
18-May-20	101.7
25-May-20	102
1-Jun-20	103
8-Jun-20	103.5
15-Jun-20	103.1
22-Jun-20	102.9
29-Jun-20	101.1
6-Jul-20	100.4
13-Jul-20	100.3
20-Jul-20	99.6
27-Jul-20	100.7
3-Aug-20	101.8
10-Aug-20	101.6
17-Aug-20	101.01
24-Aug-20	101.00
31-Aug-20	100.99

Mean 101.6364
Standard deviation 1.124
Variance 1.20595
R value 0.036056



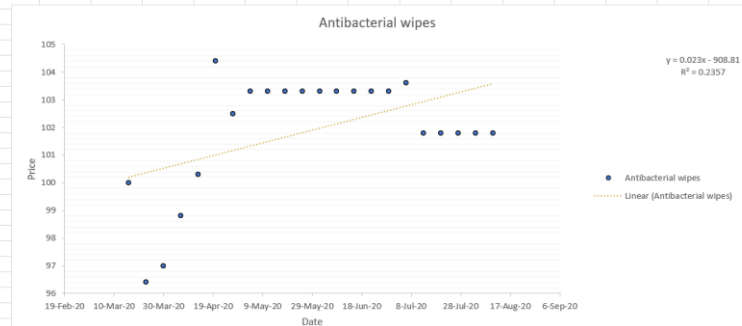
Date	Baby food
16-Mar-20	100
23-Mar-20	99.3
30-Mar-20	98.5
6-Apr-20	97.8
13-Apr-20	97.8
20-Apr-20	97.6
27-Apr-20	97.9
4-May-20	97.5
11-May-20	98.2
18-May-20	98.2
25-May-20	98.2
1-Jun-20	98.8
8-Jun-20	98.9
15-Jun-20	98.9
22-Jun-20	98.7
29-Jun-20	98.7
6-Jul-20	98.6
13-Jul-20	96.6
20-Jul-20	96.4
27-Jul-20	96
3-Aug-20	97
10-Aug-20	97
17-Aug-20	98.87
24-Aug-20	98.79

Mean 98.02727
Standard deviation 0.991959
Variance 0.939256
R value 0.564978

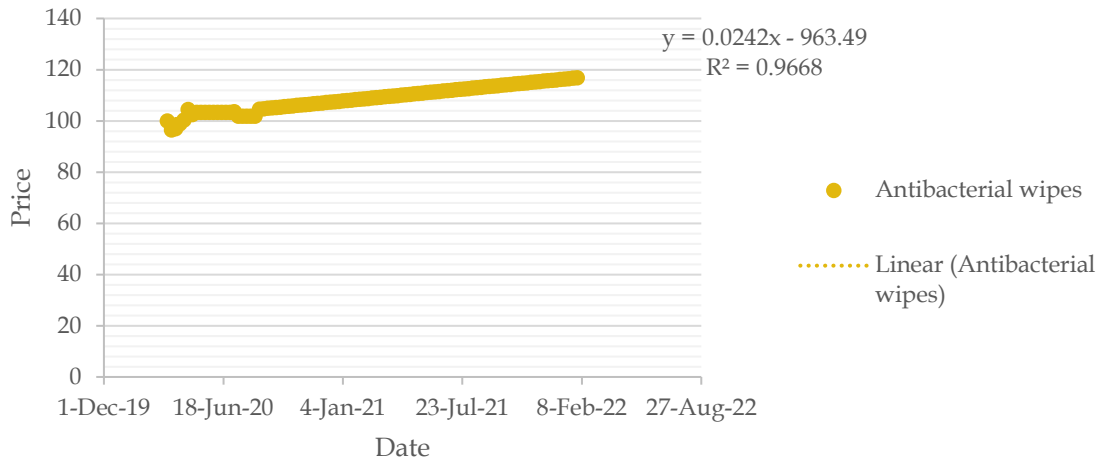


Date	Antibacterial wipes
16-Mar-20	100
23-Mar-20	96.4
30-Mar-20	97
6-Apr-20	98.8
13-Apr-20	100.3
20-Apr-20	104.4
27-Apr-20	102.5
4-May-20	103.3
11-May-20	103.3
18-May-20	103.3
25-May-20	103.3
1-Jun-20	103.3
8-Jun-20	103.3
15-Jun-20	103.3
22-Jun-20	103.3
29-Jun-20	103.3
6-Jul-20	103.6
13-Jul-20	101.8
20-Jul-20	101.8
27-Jul-20	101.8
3-Aug-20	101.8
10-Aug-20	101.8
17-Aug-20	104.57
24-Aug-20	104.73

Mean 101.8955
Standard deviation 2.151738
Variance 4.419525
R value 0.485489
P value



Antibacterial wipes - With Predictive analysis



SUMMARY OUTPUT

Antibacterial wipes

Regression Statistics	
Multiple R	0.485477429
R Square	0.235688334
Adjusted R Square	0.19747275
Standard Error	1.927610903
Observations	22

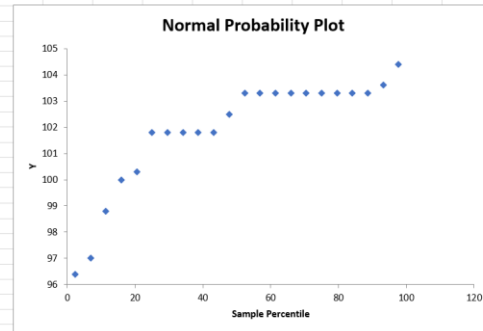
ANOVA

	df	SS	MS	F	Significance F
Regression	1	22.91586957	22.91587	6.167336	0.021998221
Residual	20	74.31367589	3.715684		
Total	21	97.22954545			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-908.8135517	406.9842104	-2.23304	0.037134	-1757.767738	-59.85936517	-1757.767738	-59.85936517
X Variable 1	0.022981366	0.009253948	2.483412	0.021998	0.003677969	0.042284764	0.003677969	0.042284764

PROBABILITY OUTPUT

Percentile	Y
2.272727273	96.4
6.818181818	97
11.36363636	98.0



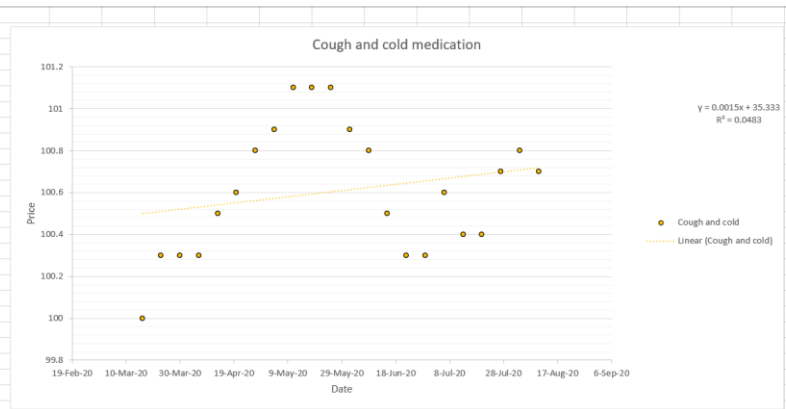
Date

Cough and cold

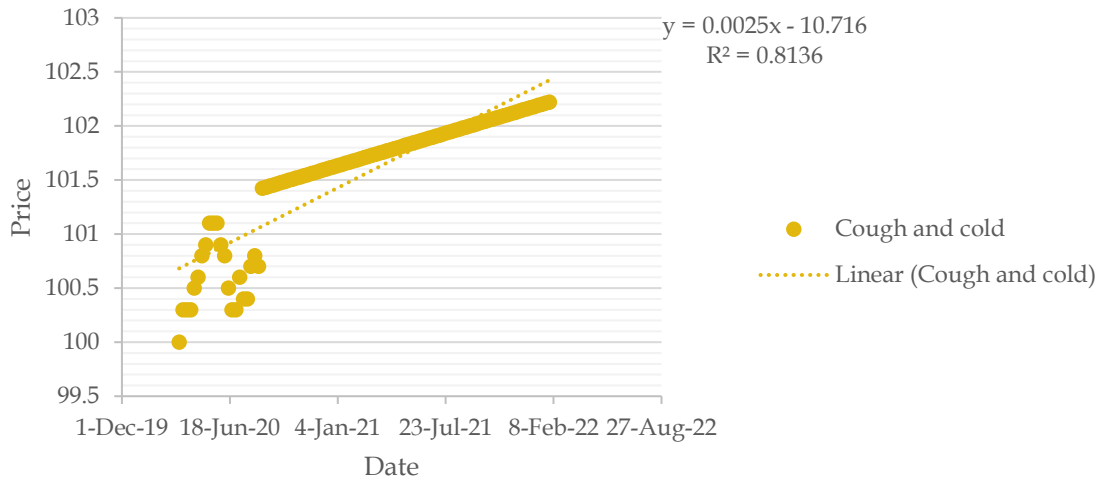
16-Mar-20	100
23-Mar-20	100.3
30-Mar-20	100.3
6-Apr-20	100.3
13-Apr-20	100.5
20-Apr-20	100.6
27-Apr-20	100.8
4-May-20	100.9
11-May-20	101.1
18-May-20	101.1
25-May-20	101.1
1-Jun-20	100.9
8-Jun-20	100.8
15-Jun-20	100.5
22-Jun-20	100.3
29-Jun-20	100.3
6-Jul-20	100.6
13-Jul-20	100.4
20-Jul-20	100.4
27-Jul-20	100.7
3-Aug-20	100.8
10-Aug-20	100.7

Mean	100.6091
Standard deviation	0.306919
Variance	0.089917
R value	0.219773

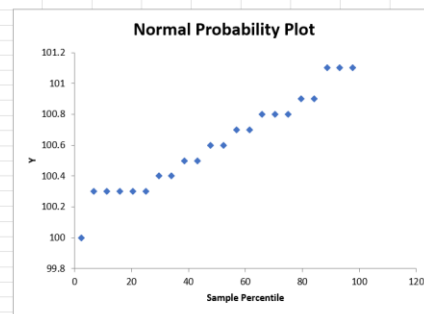
17-Aug-20	101.42
24-Aug-20	101.43
31-Aug-20	101.44



Cough and cold medication - - With Predictive analysis



SUMMARY OUTPUT								
Cold and cough Medication								
Regression Statistics								
Multiple R	0.219816577							
R Square	0.048319328							
Adjusted R Square	0.000735294							
Standard Error	0.306805916							
Observations	22							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.095584416	0.095584416	1.015452539	0.325637035			
Residual	20	1.882597403	0.09412987					
Total	21	1.978181818						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	35.33339518	64.77716186	0.545460686	0.591468865	-99.78939669	170.456187	-99.78939669	170.456187
X Variable 1	0.00148423	0.001472894	1.00769665	0.325637035	-0.001588172	0.004556632	-0.001588172	0.004556632
PROBABILITY OUTPUT								
	Percentile	Y						
	2.272727273	100						
	6.818181818	100.3						
	11.36363636	100.3						



Analyzing the depression rates across years

Date	No or mild symptoms	Moderate to severe symptoms
Mar-20	83	17
Jun-20	77	23
Nov-20	80	20
Mar-21	80	20
Aug-21	94	6

