

The lockdown lifestyle impact in people with diabetes

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Summary

258 people from 20 countries completed an online survey on the impact of lockdown on their lifestyle. Many are eating more meals at home, eating more fresh food and consciously using the opportunity to improve their diet. On the other hand, 50% of people with diabetes report they are less physically active, 30% report weight gain and 24% report worsening glucose control. Those experiencing adverse effects of lockdown should be encouraged to seek advice on lifestyle and treatment changes to reduce their risk from Covid-19 and help prevent longer term consequences of poorer metabolic health.

Introduction

Covid-19 is often a more serious disease in people with diabetes, particularly for those who have suboptimal glycaemic control and who are obese. While much attention has rightly been paid to the impact on health of the infection itself, it is also recognised that the 'lockdowns' imposed to help control it, can themselves have consequences for health. These range from adverse effects, especially in respect of mental health, to positive impacts through less exposure to air pollution.

The global rise in prevalence of type 2 diabetes is a result of changing lifestyles, which have been shaped by a rapidly-changing food environment, with ready access to low-cost, energy-dense foods and beverages. In most countries, the lockdowns imposed a significant and immediate change to food environments, with restaurants and fast food retailers closing and shortages of some foods in shops. At the same time, social environments were impacted, with large sectors of populations required not to socialise with family or friends, to stay at home and to limit physical activity.

As changes to food intake and physical activity levels directly impact blood glucose control in all types of diabetes, a survey was conducted amongst people with and without diabetes to provide some qualitative insights into the impact of lockdown on aspects of lifestyle that impact diabetes control.

A SurveyMonkey online survey was designed to enquire about whether respondents, 1. changed eating and drinking habits and physical activity levels during lockdown, and 2. experienced changes in weight and/or diabetes control during lockdown. It had thirteen questions and could be completed in less than three minutes. Respondents were anonymous and gave consent to their responses being included in analyses. The survey was in English and was publicised through social media channels in order to reach people in many countries. It was open from April 17th until May 3rd 2020.

Results

The survey was completed by 258 people from 20 countries across all continents. 133 were from the UK, 12 from European Union countries, 34 from North America and Caribbean, 2 from South America, 23 from Africa, 7 from Asia and 7 from Australasia. 109 people without diabetes responded, 53 with type 1 and 96 with type 2 diabetes. Nine had prediabetes and three another type of diabetes; for the purposes of analysis, they were included in the group with type 2 diabetes. 18 reported symptoms consistent with Covid-19; of these, 10 had diabetes, one of whom had had a positive antigen test.

Lockdown periods started at different dates between late February and early April. Respondents had been living in lockdown for an average of five weeks at the time they completed the survey. The impact of lockdown on eating habits is shown in table 1. Overall, 45% of respondents reported eating more meals at home, with between 25 and 32% eating different meals from previously. More people ate fresh food and fewer ate 'fast food', particularly in the group with type 1 diabetes. Similar proportions of people with and without diabetes reported eating more sweet foods. All groups drank more alcohol and respondents with diabetes drank less sugar-sweetened drinks.

Table 1	No Diabetes (109)	Type 1 Diabetes (53)	Type 2 Diabetes (96)
Since lockdown I:			
Eat more meals at home	45.9%	45.3%	44.8%
Eat different meals at home	25.7%	24.8%	32.3%
Eat more fresh food	23.9%	35.8%	30.2%
Eat less fresh food	3.7%	7.5%	5.2%
Eat more fast food	0.9%	0%	7.3%
Eat less fast food	15.6%	24.5%	15.3%
Eat more sweet food	15.6%	13.2%	13.5%
Eat less sweet food	10.1%	5.7%	11.5%
Drink more alcohol	27.5%	20.8%	18.8%
Drink less alcohol	12.8%	15.1%	11.5%
Drink more sugar-sweetened drinks	3.7%	0%	4.2%
Drink less sugar-sweetened drinks	4.6%	13.2%	11.5%

The survey asked a single question about activity levels. In all groups, more people reported they were less active than who reported they were more active. This difference was more marked in people with diabetes (table 2).

Table 2	No Diabetes (109)	Type 1 Diabetes (53)	Type 2 Diabetes (96)
Since lockdown I:			
Am more active	34.9%	26.4%	22.9%
Am less active	42.2%	58.5%	51.0%

Overall, 43.1% of people with type 2 diabetes and 45.3% with type 1 diabetes made a conscious decision to change their diet during lockdown compared to 36.7% of those without diabetes. Many more in all groups chose to reduce their carbohydrate intake than their fat intake (table 3).

Table 3	No Diabetes (109)	Type 1 Diabetes (53)	Type 2 Diabetes (96)
Since lockdown I have decided to:			
Eat more healthy food	24.8%	18.9%	28.1%
Reduce fat intake	6.4%	9.4%	4.2%
Reduce carbohydrate intake	17.6%	26.4%	29.2%
Reduce sugar intake	11.0%	11.3%	21.9%
Reduce alcohol intake	9.2%	0%	9.4%

Finally the survey asked about changes in weight and in glucose control. A greater proportion of respondents with diabetes reported increased weight than those without diabetes; conversely a higher proportion with type 2 diabetes reported weight loss than in other groups. In those who reported weight changes, the average change was between 2 and 3kg. 34.0% and 24.0% of respondents with type 1 and type 2 diabetes respectively reported their glucose control was better and 34.0% and 18.8% that it was worse than before lockdown (table 4).

Table 4	No Diabetes (109)	Type 1 Diabetes (53)	Type 2 Diabetes (96)
Since lockdown:			
My weight has increased	16.5%	28.3%	30.2%
Mean weight gain	2.2kg	2.0kg	2.7kg
My weight has decreased	18.3%	20.8%	28.1%
Mean weight loss	3.1kg	2.3kg	2.9kg
My glucose control is better	NA	34.0%	24.0%
My glucose control is worse	NA	34.0%	18.8%

Respondents with symptoms of Covid-19 broadly reported similar findings to those without, with the exception that 70% of those with diabetes reported weight increase.

Discussion

This survey was designed to provide a snapshot of how the lifestyle changes imposed by lockdown have impacted people with diabetes. Respondents were self-selected and cannot be regarded as representative; however they do provide some insights into how individuals have responded in different ways. With the closure of restaurants and fast food outlets in many countries, and many people not working, it is not surprising that eating habits have changed, with nearly half reporting

they eat more at home, and around a third report that they are eating more fresh food, with potentially beneficial effects on health. Nearly half of people with diabetes reported that they have used lockdown as an opportunity to make deliberate changes to improve their diet.

A minority reported eating more sweet foods and drinks, and some indicated this was in response to some of the stresses experienced as a result of the lockdown. Such stresses could also account for the net increase in reported alcohol consumption.

Lockdowns have had a significant impact on physical activity and in some countries outside exercise has been severely limited or prohibited. People with diabetes were more likely to be less active than usual, possibly due to staying at home because of increased risks from Covid-19 associated with having diabetes.

It is not surprising that many people with diabetes reported changes in weight and/or glucose control as results of the lifestyle changes imposed during lockdown. Weight loss and improved glucose control are welcome benefits in some, but the weight gain and worsening glucose control seen in others are of particular concern, given their known adverse impact on risk and severity of Covid-19 infection. These changes have occurred when many diabetes care services are less accessible. However, people with diabetes experiencing changes in weight and glucose control should be encouraged to seek advice on lifestyle and treatment changes as appropriate to reduce their risk from Covid-19 and help prevent longer term consequences of poorer metabolic health.

Please contact info@drdavidcavan.com if you have any comments about this survey, or suggestions for further analyses of the data.

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