## **Supporting Information**

## Introduction

Key Restrictions Access to food	Alert Level 4 (Lockdown) 25 March 2020 to 26 April 2020 All business closed except for essential services. This included closure of all food outlets: fast food shops, takeaway outlets, cafes,	Alert Level 3 27 April 2020 to 13 May 2020 Businesses could open premises, but no physical interaction with customers. This included restaurants, cafes, takeaway
	restaurants, butchers, and specialty food stores.	outlets, butchers, and specialty food stores.
	Essential services remained open, such as supermarkets, convenience stores, and food delivery businesses that provided meal ingredients which are prepared and consumed at home.	Same.
	All gatherings cancelled and all public venues closed, including food courts and fruit and vegetable markets.	Same.
Physical Activity	Only local safe recreational activity was allowed, such as walking, running, bike rides close to home. No water sports, or outdoor activities such as mountain biking or hiking.	Same.
	All public venues closed, including gyms, pools, and playgrounds. All sports events cancelled.	Same.
Health care	Reprioritisation of healthcare services.	Healthcare services to use virtual, non-contact consultations where possible.
Education	All educational facilities closed.	Only early learning centres and schools could open for children whose parents.
Other	All people were to stay at home other than for essential personal movement.	Could expand the household to include family or nanny/childcare if required.

## Table 1: Key COVID-19 Restrictions During Alert Level 4 and Alert Level 3 in New Zealand

Severe travel restrictions. Limit travel to shopping for food, petrol and	Same.
health care if required.	
Everyone to work from home unless	Same.
this was not possible or considered	
essential workers.	

## Methods

Figure 1: The online survey sent to participants

The survey

NZ Aotearoa has been placed under restrictions to help reduce the spread of COVID-19. These questions refer to:

Before the COVID-19 restrictions Level FOUR: From 26 March till 27 April Level THREE: From 28 April

Servings per dayThe following questions are about the number of servings you eat per day

#### On average, how many servings of

fruit - fresh, frozen, canned or stewed - did you eat per day?

Do NOT include fruit juice or dried fruit.

# A serving is the same as a medium piece of fruit such as an apple or two small pieces of fruit such as two apricots, or half a cup of stewed fruit

•								
	0	1	2	3	4	5	6	7 +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

On average, how many servings of

vegetables - fresh, frozen or canned - did you eat per day?

Do NOT include vegetable juices.

#### A serving is the same as one potato/kumara, half a cup of peas or a cup of salad. For example, 2 medium potatoes + 1/2 cup of peas = 3 servings

					÷ • • • • • • • • • • • • • • • • • • •			
	0	1	2	3	4	5	6	7 +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

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On average, how many s bread/toast, chapatti/rot	-	roll did y	ou eat p	er day?							
A serving is the same as	1 slice of b	read/toa	ist, 1 cha	patti/rot	ior 1 br	ead roll					
Before the restrictions	0	1	2	3	4	5	6	7 + O			
During level FOUR	0	0	0	0	0	0	0	0			
During level THREE	0	0	0	0	0	0	0	0			
On average, how many servings of milk or other dairy products did you have per day?											
E.g. yoghurt and cheese											
A serving is the same as slices of cheese (40g)	1 glass of	milk (250	)ml) or 1	small po	ottle of y	oghurt (1	25-150g	) or 2			
Before the restrictions	Ô	1	2	3	4	5	6	7 + O			
During level FOUR	0	0	Õ	0	0	Õ	0	Õ			
During level THREE	0	0	0	0	0	0	0	0			
•											
On average, how many s plant based drinks did yo	-	day?									
E.g. rice, soy, oat											
A serving is the same as	one glass (	250ml)									
Before the restrictions	0		2 O	3	4	5	6	7 + O			
During level FOUR	õ	õ	õ	õ	õ	õ	õ	õ			
During level THREE	0	0	Õ	õ	Õ	Õ	õ	0			
The following questions	are about w	hich typ	e of flou	r vou ate	more of	wholem	oal vs. w	hite			
flour	are about w	men cyp	e or nou	you ate	more or,	wholein		inte			
On average, what type of bread/toast, chapatti/roti or br MOST often Before the restrictions?	ead roll did yo	u eat		<ul> <li>High fibi</li> <li>Wholem</li> <li>Light grading</li> <li>Freya's,</li> </ul>	Ploughmar rain bread	ead or flour or flour r flour (e.g ns, Macken	r . Molenberg zie High Co ls and Burg	ountry)			

On average, what type of bread/toast, chapatti/roti or bread roll did you eat MOST often During level FOUR?	<ul> <li>White bread or flour</li> <li>High fibre white bread or flour</li> <li>Wholemeal bread or flour</li> <li>Light grain bread or flour (e.g. Molenberg, Freya's, Ploughmans, Mackenzie High Country)</li> <li>Heavy grain bread (e.g. Vogels and Burgen)</li> <li>Other</li> <li>Don't know</li> </ul>
On average, what type of bread/toast, chapatti/roti or bread roll did you eat MOST often During level THREE?	<ul> <li>White bread or flour</li> <li>High fibre white bread or flour</li> <li>Wholemeal bread or flour</li> <li>Light grain bread or flour (e.g. Molenberg, Freya's, Ploughmans, Mackenzie High Country)</li> <li>Heavy grain bread (e.g. Vogels and Burgen)</li> <li>Other</li> <li>Don't know</li> </ul>

. . . . .

# The following questions are about the number of times you ate certain foods per week

breakfast per week?								
	0	1	2	3	4	5	6	7
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
ing level FOUR	0	0	0	0	0	0	0	С
ing level THREE	0	0	0	0	0	0	0	С

## On average, how often did you eat

processed meat products per week?

Processed meat includes has a salami.	am, baco	n, sausa	ges, lunc	heon, ca	nned cor	ned beef	, pastrar	ni, and
	0	1	2	3	4	5	6	7 +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
On average, how often did you eat red meat per week? NOT including processed meat products								
Before the restrictions	°		2	3 O	4 O	5	6 ()	7 + O

On average,	how often did you eat
canned fish	or shellfish per week?

## Canned fish includes products such as tinned tuna, salmon, and sardines.

	0	1	4	2	4	2	0	/ +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

## On average, how often did you eat

During level FOUR During level THREE

takeaway, fast food,	cafe, or restaurant purchased	l hot chips, French fries,	wedges, or
kumara chips per wee	k?		

## Think about lunch and dinner as well as snacks.

Do NOT include hot chip	s made at h	ome						
	0	1	2	3	4	5	6	7 +
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
On average, how often o	did you eat							
chicken per week?								
Before the restrictions	Ô		2	3 ()	4 O	5	6 ()	7 + O
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
fresh or frozen fish or s Do NOT include battered			sh or she	llfish.				
Before the restrictions	00		2	3	4	5	6	7 + O
During level FOUR	õ	õ	õ	õ	õ	õ	õ	õ
During level THREE	0	0	0	0	0	0	0	0
On average, how often o battered or fried fish or This may include battere	r shellfish po			rom the	'Fish and	l Chip' sh	lop.	
	0	1	2	3	4	5	6	7+
Before the restrictions	0	0	0	0	0	0	0	0

Before the restrictions During level THREE	0	0	0	0	0	0	0	0	
	On average, how often did you eat lollies, sweets, chocolate and confectionary per week?								
Do NOT include chocolate/c	onfectio	nary you	ate at E	aster tin	ne during	level FO	UR		_
Before the restrictions	0		2 O	3 ()	4	5	6	7 + O	
During level FOUR	0	Õ	Õ	0	Õ	Õ	Õ	Õ	
During level THREE	0	0	0	0	0	0	0	0	
On average, how often did y	ou eat								
sweet snacks per week?									
E.g. biscuits, cakes, sweet									
Before the restrictions	ô		2	3 O	4	5	6	7 + O	
During level FOUR	0	0	0	0	0	0	0	0	
During level THREE	0	0	0	0	0	0	0	0	
On average, how often did y salty snacks per week? E.g. crisps, salted nuts	vou eat								
	Ô	1 ()	2 O	3	4	5	6	7+	
Before the restrictions During level FOUR	0	0	0	0	0	0	0	0	
During level THREE	õ	0	0	0	0	0	0	0	
On average, how often did y legumes/pulses per week? E.g. chickpeas, beans lentils									
Before the restrictions	ô	1 O	2	3	4 O	5	6	7 + O	
During level FOUR	õ	õ	õ	õ	õ	õ	õ	õ	
During level THREE	0	0	0	0	0	0	0	0	

#### On average, how often did you drink fruit juices and drinks per week?

E.g. Fruit juices and drinks include freshly squeezed varieties, and brands such as Just Juice, Fresh-up, Keri, Golden Circle, Ribena, Thextons, McCoy and Charlie's.

Do NOT include diet or diabetic varieties, soft drinks and energy drinks, flavoured waters (e.g. H2Go and sports waters (e.g. Charlies Sports water, Mizone and Agua-shot)

	0	1	2	3	4	5	6	7 +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

On average, how often did you drink

soft drinks /fizzy or energy drinks per week?

E.g. Coca-cola, Pepsi, Lemonade, Ginger beer, Energy drinks (e.g. 'V', Red Bull, Lift plus), Powerade, E2 and G-force

Do NOT include diet varieties. fruit juices and drinks, flavoured waters (e.g. H2Go), and sports waters (e.g. Charlies Sports water, Mizone and Aqua-shot)

	•	-						
	0	1	2	3	4	5	6	7 +
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

The following questions are about what you ate for your main meals

#### On average, how often did you eat Vegan dishes for the main meal per week?

Vegan meals have NO m	eat, NO fish	and NO	dairy pro	oducts (e	.g. no co	w's milk,	nor che	ese)
	0	1	2	3	4	5	6	7
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0

On average, how often d										
vegetarian dishes for the	e main meal	per wee	k?							
Before the restrictions	0		2	3	4	5	6	7		
During level FOUR	0	0	0	0	0	0	0	0		
During level THREE	0	0	0	0	0	0	0	0		
The following questions	are about									
where you ate										
	n average, how often did you eat st food or takeaways from places like McDonalds, C, etc			<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> </ul>						
Before the restrictions?			<ul> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>							
Think about breakfast, lunch, o Do NOT include times when yo drink/beverage										
On average, how often did you fast food or takeaways from p KFC, etc During level THREE? Think about breakfast, lunch, o Do NOT include times when yo drink/beverage	laces like McD dinner and sna	cks.		○ Never / ○ 1 time p ○ 2 times ○ 1 time p ○ 2 -3 tim ○ 4-5 time ○ 6 -7 tim	er month per month er week es per wee es per week	k	onth			
On average, how often did you food from restaurants or cafes Before the restrictions?				O Never / O 1 time p O 2 times	er month per month	once per m	onth			
NOT including fast food or take	eaways mentic	ned above	<ul> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>							
Think about breakfast, lunch, o Do not include times when you drink/beverage				0.0-7 4	ies per wee	ι <b>κ</b>				
On average, how often did you food from restaurants or cafes	i eat			O Never / O 1 time p	er month		onth			
During level THREE?				○ 2 times ○ 1 time p ○ 2 -3 tim	er week					
NOT including fast food or take	eaways mentio	ned above		🔿 4-5 time	es per week	(				
Think about breakfast, lunch, o Do not include times when you drink/beverage			○ 6 -7 times per week							

On average, how often per	week did	l you eat						
the main meal, prepared a	at your ho	me?						
	0	1	2	3	4	5	6	7
Before the restrictions	0	0	0	0	0	0	0	0
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
The following questions ar	e about							
who you ate with								
Compared to before the restriction FOUR change how often you ate	ons, how dic	i level		O Less oft O No char				
shared meals outside of your hor	ne, with ext	ended		O More of				
family/whānau or friends?								
Compared to before the restriction THREE change how often you ate		level		O Less oft O No char				
shared meals outside of your hor		ended		O More of				
family/whānau or friends?								
Compared to before the restriction	ons, how did	level		O Less oft	en			
FOUR change how often you ate				O No char	nge			
shared meals outside your home sports or club gatherings, at the	at church g marae, or w	atherings, ith		O More of	ten			
work colleagues?	indiac, or it							
Compared to before the restriction THREE change how often you ate		i level		O Less oft O No char				
shared meals outside your home	at church g			O More of				
sports or club gatherings, at the work colleagues?	marae, or w	ith						
work colleagues:								
The following questions ar	e about							
food Shopping								

Online	
On average, how often did your household, shop for food online Before the restrictions? E.g. Click and collect or delivery	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household, shop for food online During level FOUR? E.g. Click and collect or delivery	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household, shop for food online During level THREE? E.g. Click and collect or delivery	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
Supermarket	
On average, how often did your household, shop for food at a supermarket, in person Before the restrictions? E.g. physically at the supermarket, NOT online	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household, shop for food at a supermarket, in person During level FOUR? E.g. physically at the supermarket, NOT online	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household, shop for food at a supermarket, in person During level THREE? E.g. physically at the supermarket, NOT online	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>

Dairy	
On average, how often did your household shop for food at a dairy Before the restrictions?	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household shop for food at a dairy During level FOUR?	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household shop for food at a dairy During level THREE?	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
Fruit and Vege market	
On average, how often did your household shop at a fruit and vege market, in person Before the restrictions? E.g. physically at the supermarket, NOT online	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household shop at a fruit and vege market, in person During level THREE? E.g. physically at the supermarket, NOT online	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
Other food shops	
On average, how often did your household shop for food at other types of shops, Before the restrictions?	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> </ul>
E.g. The butchers, the greengrocers, or specialty food stores	<ul> <li>○ 4-5 times per week</li> <li>○ 6 -7 times per week</li> </ul>

On average, how often did your household shop for food at other types of shops, During Level FOUR? E.g. The butchers, the greengrocers, or specialty food stores	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
On average, how often did your household shop for food at other types of shops, During level THREE? E.g. The butchers, the greengrocers, or specialty food stores	<ul> <li>Never / Less than once per month</li> <li>1 time per month</li> <li>2 times per month</li> <li>1 time per week</li> <li>2 -3 times per week</li> <li>4-5 times per week</li> <li>6 -7 times per week</li> </ul>
The following questions are about the impact COVI	D-19 had on you / your household
What impact did level FOUR have on how your household shopped for food?	○ No impact ○ small impact ○ Moderate impact ○ significant impact
Please give an example of how level FOUR impacted on how your household shopped for food	
What impact did level THREE have on how your household shopped for food?	<ul> <li>No impact</li> <li>small impact</li> <li>Moderate impact</li> <li>significant impact</li> </ul>
Please give an example of how level THREE impacted on how your household shopped for food	
Food purchases	
What impact did level FOUR have on the types of food your household purchased?	<ul> <li>No impact</li> <li>Small impact</li> <li>Moderate impact</li> <li>Significant impact</li> </ul>
Please give an example of how level FOUR impacted on the type of food your household purchased	
What impact did level THREE have on the types of food your household purchased?	<ul> <li>No impact</li> <li>Small impact</li> <li>Moderate impact</li> <li>Significant impact</li> </ul>

Please give an example of how level THREE impacted on the type of food your household purchased

On average, how often pe meals that are commercia	-	-		han aata		homo?		
means that are commercia	any suppri	eu or pre	pareu, t	nen eate	n in your	nomer		
Such as completely cooke	-	-			Dinnerir	n etc		
or partially prepared food	d e.g. Hello	D Fresh, I	My Food	Bag etc	4	5	6	7 +
Before the restrictions	ŏ	Ô	ò	ŏ	ò	Ő	ŏ	õ
During level FOUR	0	0	0	0	0	0	0	0
During level THREE	0	0	0	0	0	0	0	0
Type of food								
What impact did level FOUR have on the types of food your h	nousehold pr	epared?		<ul> <li>No impa</li> <li>Small im</li> <li>Moderat</li> <li>Significa</li> </ul>	npact te impact			
Please give an example of how impacted on the type of food yo		d prepared						
What impact did level THREE have on the types of food your household prepared?				<ul> <li>○ No impa</li> <li>○ Small im</li> <li>○ Moderat</li> <li>○ Significa</li> </ul>	npact te impact			
Please give an example of how impacted on the type of food yo	evel THREE ur household	d prepared	l					
Frozen food								
Compared to your eating habits before the restrictions, how did level FOUR change how often you ate meals or ingredients that were pre-frozen?				○ Less ofte ○ No chan ○ More oft	ge			
Please give an example of how level FOUR changed how often you ate ingredients that were purchased frozen?								
Compared to your eating habits restrictions, how did level THRE how often you ate meals or ingr pre-frozen?	E change	were		○ Less ofte ○ No chan ○ More oft	ge			
Please give an example of how changed how often you ate ingr purchased frozen?		were						

Meals made at home		
Compared to your eating habits before the restrictions, how did level FOUR change how often you ate meals prepared by someone in your home?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>	
Do NOT include food made from meal boxes such as 'My Food Bag', or other ready-made meals.		
Please give an example of how level FOUR changed how often you ate meals prepared by someone in your house		
Compared to your eating habits before the restrictions, how did level THREE change how often you ate meals prepared by someone in your home?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>	
Do NOT include food made from meal boxes such as 'My Food Bag', or other ready-made meals.		
Please give an example of how level THREE changed how often you ate meals prepared by someone in your house		
Portion sizes		
Compared to your eating habits before the restrictions, how did level FOUR change the amount you eat?	<ul> <li>Smaller portions</li> <li>No change</li> <li>Bigger portions</li> </ul>	
Please give an example of how the level FOUR changed the amount you eat		
Compared to your eating habits before the restrictions, how did level THREE change the amount you eat?	<ul> <li>Smaller portions</li> <li>No change</li> <li>Bigger portions</li> </ul>	
Please give an example of how the level THREE changed the amount you eat		
How often you eat		
Compared to your eating habits before the restrictions, how did level FOUR change how often you eat?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>	
Please give an example of how the level FOUR impacted on how often you eat		

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Compared to your eating habits before the restrictions, how did level THREE change how often you eat?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>
Please give an example of how the level THREE impacted on how often you eat	
Compared to your eating habits before the restrictions, how did level FOUR change how often you SNACK?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>
Please give an example of how the level FOUR impacted on how often you SNACK	
Compared to your eating habits before the restrictions, how did level THREE change how often you SNACK?	<ul> <li>Less often</li> <li>No change</li> <li>More often</li> </ul>
Please give an example of how the level THREE impacted on how often you SNACK	
Blood sugar levels	
Compared to your before the restrictions, how did level FOUR impact your ability to stay within the recommended blood sugar level range?	<ul> <li>It was easier to stay within the recommended range</li> <li>No impact</li> <li>It was harder to stay within the recommended range</li> </ul>
Please give an example of how the level FOUR impacted on your ability to stay within the recommended blood sugar level range	
Compared to your before the restrictions, how did level THREE impact your ability to stay within the recommended blood sugar level range?	<ul> <li>It was easier to stay within the recommended range</li> <li>No impact</li> <li>It was harder to stay within the recommended range</li> </ul>
Please give an example of how the level THREE impacted on your ability to stay within the recommended blood sugar level range	
How healthy you eat	
Compared to your eating habits before the restrictions, how did level FOUR change how healthy overall, you think your diet is?	<ul> <li>Less healthy</li> <li>No change</li> <li>More healthy</li> </ul>
Please give an example of how the level FOUR changed how healthy overall, you think your diet is	
Compared to your eating habits before the restrictions, how did level THREE change how healthy overall, you think your diet is?	<ul> <li>Less healthy</li> <li>No change</li> <li>More healthy</li> </ul>

Please give an example of how the level THREE	
changed how healthy overall, you think your diet is	5

Physical Activity	
Compared to your physical activity before the restrictions, how has level FOUR changed how much physical activity you do?	<ul> <li>Less physical activity</li> <li>No change</li> <li>More physical activity</li> </ul>
Please give an example of how level FOUR changed the physical activity you do	
Compared to your physical activity before the restrictions, how has level THREE changed how much physical activity you do?	<ul> <li>Less physical activity</li> <li>No change</li> <li>More physical activity</li> </ul>
Please give an example of how level THREE changed the physical activity you do	
The following questions are about you and your baby	
What year were you born?	
	(E.g. 1985)
Which ethnic group or groups do you belong to?	<ul> <li>New Zealand European/ European</li> <li>Māori</li> <li>Samoan</li> <li>Cook Island Māori</li> <li>Tongan</li> <li>Niuean</li> <li>Other Pacific</li> <li>Fijian</li> <li>Indian</li> <li>Other European</li> <li>Asian not defined</li> <li>Chinese</li> <li>South East Asian</li> <li>Middle Eastern</li> <li>Latin American /Hispanic</li> <li>Africa</li> <li>Other</li> <li>Don't know</li> </ul>

Other ethnicity, please specify

What type of diabetes do you have?	Gestational (pregnancy-related) diabetes Type 1 diabetes
TYPE 1 diabetes is usually diagnosed in childhood, but can be diagnosed as an adult. When people are diagnosed with type 1 diabetes they always need insulin.	O Type 2 diabetes. O Don't know
TYPE 2 diabetes is usually diagnosed as an adult. It is often seen in families. It can be managed by increasing exercise, a change in diet, or by taking medication -tablets or insulin.	
When were you told you had gestational diabetes?	
Your best guess is fine	
Your pregnancy	
What is your Estimated Date of Delivery?	
	(DD-MM-YYYY)
How many babies have you given birth to?	O None O 1
If this is your first pregnancy, select 'none'	0 2 0 3 0 4 0 5 0 6 0 7 0 8 9 0 10 or more
Who you live with	
These questions help us to better understand y	our bubble before and during the COVID-19
restrictions	
How many adults (aged 16 and over) lived in your house at least part of the time before the restrictions?	<ul> <li>I live alone</li> <li>1 other adult</li> <li>2 other adults</li> <li>3 other adults</li> <li>4 other adults</li> <li>5 other adults</li> <li>other - please specify</li> </ul>

How many adults (aged 16 and over) lived in your house at least part of the time before the restrictions?

How many children (aged 15 and younger) lived in your house at least part of the time before the restrictions?	<ul> <li>no children</li> <li>1 child</li> <li>2 children</li> <li>3 children</li> <li>4 children</li> <li>5 children</li> <li>other - please specify</li> </ul>
How many children (aged 15 and younger) lived in your house at least part of the time before the restrictions?	
Level FOUR	
Was there any change to the number of people that lived in your household during Alert level FOUR ?	⊖ Yes ⊖ No
How many adults (aged 16 and over) lived in your house at least part of the time for level FOUR?	<ul> <li>I live alone</li> <li>1 other adult</li> <li>2 other adults</li> <li>3 other adults</li> <li>4 other adults</li> <li>5 other adults</li> <li>other - please specify</li> </ul>
How many adults (aged 16 and over) lived in your house at least part of the time for level FOUR?	
How many children (aged 15 and younger) lived in your house at least part of the time for level FOUR?	<ul> <li>no children</li> <li>1 child</li> <li>2 children</li> <li>3 children</li> <li>4 children</li> <li>5 children</li> <li>other - please specify</li> </ul>
How many children (aged 15 and younger) lived in your house at least part of the time for level FOUR?	
Level THREE	
Was there any change to the number of people that lived in your household during Alert level THREE ?	⊖ Yes ⊖ No
How many adults (aged 16 and over) lived in your house at least part of the time for level THREE?	<ul> <li>I live alone</li> <li>1 other adult</li> <li>2 other adults</li> <li>3 other adults</li> <li>4 other adults</li> <li>5 other adults</li> <li>other - please specify</li> </ul>
How many adults (aged 16 and over) lived in your	

How many adults (aged 16 and over) lived in your house at least part of the time for level THREE?

How many children (aged 15 and younger) lived in your house at least part of the time for level THREE?		<ul> <li>no children</li> <li>1 child</li> <li>2 children</li> <li>3 children</li> <li>4 children</li> <li>5 children</li> <li>other - please specify</li> </ul>
How many children (aged 15 and younger) live house at least part of the time for level THREE		
Your income		
Has there been a change in your household's o income level due to the COVID-19 restrictions		<ul> <li>Less income</li> <li>No change</li> <li>More income</li> </ul>
Has this change in income affected your eating habits?	g	⊖ Yes ⊖ No
How has this change in income affected your on habits?	eating	
Please give an example of how this change in affected your eating habits	income	
Your work Did you work outside of th	e home?	
Before the restrictions	Yes	No
During level FOUR (as an active 'essential worker')	õ	0
During level THREE	0	0
THREE and alert level FOUR response		h our clinic during the COVID-19 alert level
In general, I found the experience of the face I face clinic	0	<ul> <li>Very good</li> <li>Good</li> <li>Neither bad nor good</li> <li>Bad</li> <li>Very bad</li> <li>I have not had this type of clinic visit</li> </ul>
In general, I found the experience of the remo clinic phone call(s)	te	<ul> <li>Very good</li> <li>Good</li> <li>Neither bad nor good</li> <li>Bad</li> <li>Very bad</li> <li>I have not had this type of clinic visit</li> </ul>

Please explain your answer

Which clinic do you mostly attend?

0	Wellington
Ο	Kenepuru
Ο	Prefer not to answer

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## Results

Table 2: Characteristics of respondents

Variable	Mean (SD) [range]
No. of adults ( $\geq$ 16 years) in the household before the	
restrictions	n/48 (%)
Live alone	1 (2.1)
1 other adult	33 (68.8)
2 other adults	4 (8.3)
3 other adults	7 (14.6)
4+ other adults	3 (6.3)
No. of children ( $\leq$ 15 years) in the household before the restrictions	
No children	21 (43.8)
1 child	18 (37.5)
2 children	7 (14.6)
3+ children	2 (4.2)
Changes to no. of people in the household during the restrictions	
Alert Level 4 = No change	45 (93.8)
Alert Level 3 = No change	47 (97.9)
Working outside of home <sup>a</sup>	
Before restrictions = No	18 (37.5)
Alert Level 4 = No	44 (91.7)
Alert Level 3 = No	44 (91.7)

a) Planned maternity leave dates were not factored into this question.

Food item	tem No. of servings per week n (%)		OR (CI 95%) <sup>1</sup>	
	0-1x week	2-3x week	<u>&gt;</u> 4x week	
Chicken				
Before	9 (18)	27 (54)	14 (28)	
level 4	9 (18)	26 (52)	15 (30)	0.74 (0.34 to 1.60) p=0.44
level 3	10 (20)	25 (50)	15 (30)	
Fish canned				
Before	39 (78)	10 (20)	1 (2)	
level 4	37 (74)	9 (18)	4 (8)	0.83 (0.36 to 1.91) p=0.66
level 3	37 (74)	11 (22)	2 (4)	
Legumes/				
pulses				
Before	29 (58)	15 (30)	6 (12)	
level 4	29 (58)	12 (24)	9 (18)	0.82 (0.35 to 1.92) p=0.63
level 3	33 (66)	9 (18)	8 (16)	

Table 3: The Frequency of Food Items Consumed Before and During Alert Level 4and Alert Level 3 COVID-19 Restrictions Among Pregnant Women with Diabetes

n=50. 1) Odds ratio (OR) of lower ordered values (lower frequency of servings) during Alert level 4 compared to before the restrictions.

Table 4: Frequency of consumption of bread before and during COVID-19 Alert Level 3 and 4.

	Type of bread cor	nsumed		
	White bread or	Wholemeal bread or	Light or heavy	Other
	flour	flour	grain	breads
Before	16 (32)	21 (42)	12 (24)	1 (2)
Level 4	15 (30)	21 (42)	13 (26)	1 (2)
Level 3	11 (22)	24 (48)	14 (28)	1 (2)

Table 5: Adequate intake of fruit, vegetables, and dairy, according to the New Zealand Food and Nutrition Guidelines for Pregnancy and Breastfeeding during Alert Level 4 restrictions compared to before the restrictions.

			During A	lert Level 4		
			No	Yes	Total	(95% CI)
Adequate	Before	No	4 (8)	5 (10)	9 (18)	
intake of fruit	restrictions	Yes	3 (6)	38 (76)	41 (82)	-0.04 ( -0.15 to, 0.07) p=0.48
		Total	7 (14)	43 (86)	50 (100)	
			During A	lert Level 4		
			No	Yes	Total	
Adequate	Before	No	28 (56)	1 (2)	29 (58)	
intake of vegetables	restrictions	Yes	3 (6)	18 (36)	21 (42)	-0.04 ( -0.12 to, 0.04) p=0.31
		Total	31 (62)	19 (38)	50 (100)	
			During A	lert Level 4		
			No	Yes	Total	
Adequate	Before	No	23 (46)	7 (14)	30 (60)	
intake of Dairy	restrictions	Yes	3 (6)	17 (34)	20 (40)	-0.08 (-0.20 to, 0.04) p=0.20
		Total	26 (52)	24 (48)	50 (100)	

n (%), Yes = adequate intake according to the NZ Food and Nutrition Guidelines for Pregnancy and Breastfeeding, No = inadequate intake according to the NZ Food and Nutrition Guidelines for Pregnancy and Breastfeeding.

Types of meals	Frequency of meals <i>n</i> (%)				OR (CI 95%) <sup>1</sup>
	0-1x	2-3x	4-5x	6-7x	
	week	week	week	week	
Breakfast					
Before	7 (14)	7 (14)	4 (8)	32 (64)	
level 4	5 (10)	7 (14)	2 (4)	36 (72)	0.59 (0.23 to 1.55) p=0.28
level 3	6 (12)	7 (14)	1 (2)	36 (72)	
Vegetarian <sup>a</sup>					
Before	31 (62)	11 (22)	2 (4)	6 (12)	
level 4	31 (62)	10 (20)	3 (6)	6 (12)	0.70 (0.27 to 1.80) p=0.45
level 3	31 (62)	10 (20)	3 (6)	6 (12)	
Vegan <sup>b</sup>	. ,	. ,			
Before	39 (78)	6 (12)	2 (4)	3 (6)	
level 4	37 (74)	8 (16)	3 (6)	2 (4)	0.79 (0.27 to 2.29) p=0.66
level 3	39 (78)	6 (12)	2 (4)	3 (6)	. , , ,

Table 6: The Frequency of Types of Meals Consumed Before and During Alert Level 4 and Alert Level 3 COVID-19 Restrictions Among Pregnant Women with Diabetes

N= 50 a) Vegetarian for main meal only, b) Vegan for main meal only, c) n=49, Main meal commercially supplied or prepared (e.g., Hello Fresh, Woop, My Food bag) and then consumed at home.

Table 7: The Frequency of Different Shopping Methods Before and During Alert Level 4 and Alert Level 3 COVID-19
Restrictions Among Women with Diabetes in Pregnancy

Method of						
Shopping	Frequency of shopping <i>n</i> (%)					OR (CI 95%) <sup>1</sup>
	0- <u>&lt;</u> 1x					
	month	1-2 x month	1x week	2-3x week	<u>&gt;</u> 4x week	
Fruit & Vege					_	
Market <sup>a</sup>						
Before	16 (32)	9 (18)	20 (40)	5 (10)	0 (0)	
Level 3	30 (60)	8 (16)	10 (20)	2 (4)	0 (0)	5.50 (2.24 to 13.47) p=0.0004
Other Shops <sup>b</sup>						、
Before	18 (36)	16 (32)	12 (24)	4 (8)	0 (0)	
Level 3	31 (62)	10 (20)	7 (14)	2 (4)	0 (0)	3.97 (1.69 to 9.34) p=0.0022 <sup>1</sup>

N=50. a) Fruit & Vegetable Market/shops all closed during Alert Level 4. b) Other Shops included butchers, green grocers or specialty food stores (they were all closed during Level 4). 1) Odds ratio (OR) lower ordered values (lower frequency of shopping) during Alert level 3 compared to before the restrictions.