

# Short-term Impact of the COVID-19 Confinement Measures on Health Behaviours and Weight Gain Among Adults in Belgium

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## Research

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## Abstract

**Background:** In Belgium, confinement measures were introduced on the 13<sup>th</sup> of March 2020 to curb the spread of the coronavirus disease (COVID-19). However, these measures may also affect health behaviours of the population. Changes in eating habits, physical activity and alcohol consumption can lead to weight gain resulting in overweight and obesity, which increases the risk of several chronic diseases, but also of severe COVID-19. The purpose of this study is to assess the impact of confinement measures on health behaviours and their associations with weight gain.

**Methods:** Data were derived from the second national COVID-19 health survey. Data were collected between the 16<sup>th</sup> and the 23<sup>rd</sup> of April 2020. The recruitment of participants was based on snowball sampling via Sciensano's website, invitations via e-mail and social media. The study sample includes participants aged 18 years and over with no missing data on the variables of interest (n=28,665). The association between self-reported weight gain and health behaviour changes, adjusted for gender, age group and household composition was assessed through OR (95% CI)'s calculated with logistic regression models, using post-stratification weights.

**Results:** Overall, 28.6% reported weight gain after 6 weeks of confinement. Higher odds of weight gain were observed among participants who increased or decreased their consumption of sugar-sweetened beverages (OR=1.39 (1.16-1.67) and 1.30 (1.05-1.61), respectively), among those who increased their consumption of sweet or salty snacks (OR=3.68 (3.30-4.10)) and food prepared out-of-home (OR=1.23 (1.03-1.48)), among those who became less physically active (OR=1.95 (1.76-2.18)), and among those who increased their alcohol consumption (1.88 (1.69-2.10)).

**Conclusions:** The most important correlates of weight gain during confinement were an increased consumption of sweet or salty snacks and being less physically active. These findings confirm the impact of diet and exercise in short term weight gain and plead to take more action in supporting people to achieve healthier behaviours in order to tackle overweight and obesity.

## Background

In Belgium, several confinement measures were introduced by the National Security Council on the 13<sup>th</sup> of March 2020 with the aim of curbing the spread of the coronavirus disease (COVID-19). The confinement measures included among others the closure of hotels, bars and restaurants as well as schools/universities, non-essential industries and the restriction of cultural, recreational or sports activities. Teleworking became the norm whenever possible, non-essential movements were forbidden and the borders were closed. Parks and other green spaces generally remained open but were subject to strict physical distancing and any form of group gatherings was forbidden. A gradual loosening of the confinement measures started on the 4<sup>th</sup> of May 2020.

These confinement measures might have had negative impacts on the health behaviours and the health status of the general population. Specific health behaviours such as overeating, unhealthy diet and reduced physical activity may contribute to weight gain (1). Besides, there is also evidence that alcohol consumption is associated with an increase in the Body mass index (BMI) (2). Weight gain may lead to overweight and obesity, which may enhance the risk of cardiovascular diseases, type 2 diabetes and some cancers, and consequently premature mortality, which makes it a major public health problem (3). Moreover, recent studies have shown that obesity increases the risk of severe COVID-19 (more respiratory complications) and consequently a longer stay in the hospital (4–6).

One of the key risk factors for weight gain that may be affected by confinement measures is unhealthy eating habits. Snacking is the intake of specific foods, often nutrient-poor, energy-dense, between traditional meals. Epidemiological studies have found a positive association between snacking and weight gain among adults (7, 8). Often, bad nutritional habits are related to a higher consumption of sugar-sweetened beverages, also a risk factor for obesity (9).

Being more often at home during confinement, may give easier access to snacks – often also a cheaper alternative to healthier options – and sugar-sweetened beverages, and extra occasions to consume them.

Furthermore, a high consumption of food prepared out-of-home has also been related to weight gain (10, 11). The confinement may have affected out-of-home processed food consumption (i.e. closure of restaurants, except home delivery options) and so possibly weight status. However, some countries have found that certain subpopulations may eat healthier during confinement. A Dutch study has for example shown that younger adults tended to spend more time cooking healthier food, to eat more fruits and vegetables, and to have less unhealthy temptations which usually take place during social gatherings, at work, or during commuting (12).

Another important health behaviour that may be impacted by the confinement is physical activity. Potential reasons for a decrease in physical activity include the fact that people are recommended to stay at home which reduces their movements. Besides, the closure of indoor sport facilities, as well as the combination of work and homeschooling may be additional factors for reducing physical activity (13). The association between physical inactivity and obesity is well documented (14–16). Conversely, some people may have had more time to be physically active during the confinement period.

The last risk factor for weight gain that may be impacted due to the COVID-19 confinement is the consumption of alcohol. Studies have generally shown that light to moderate alcohol consumption is not associated with obesity, but heavy drinking and binge drinking is (17). This can be explained by the high sugar level in some alcoholic drinks and the fact that alcohol stimulates the craving for and intake of unhealthy foods (17–19). It is expected that an increase in psychosocial distress during confinement might have increased alcohol consumption for some, while deteriorating financial situation and reduced availability of onsite alcohol areas, such as bars, might have reduced consumption for others (20).

The purpose of this study is to assess the short-term impact of the COVID-19 confinement measures on health behaviours, such as eating habits, physical activity and alcohol consumption, and on the change in body weight among adults in Belgium. Further, the associations of these health behaviours with weight gain during confinement were determined.

## Methods

### Survey methodology

To evaluate the impact of the confinement measures on the mental health, health behaviours and weight status of the population, Sciensano, the Belgian institute of public health, organised a series of online health surveys. The first COVID-19 health survey was launched 3 weeks after the start of the confinement period (the 2nd of April), the second survey took place 2 weeks later (the 16th of April), the third one started on the 28th of May 2020 and the fourth on the 24th of September 2020. All four surveys were developed using LimeSurvey version 3 and were available online for one week. The launch of the surveys and the call for participation were announced on the website of Sciensano and of other organisations (health insurance organisations, community centres...), through the press and on social media. Recruitment was based on snowball sampling (21): participants were asked to share the link of the survey with their family, friends and acquaintances. Participants who had indicated in a given survey that they would like to take part in the next one received an invitation through the e-mail address they provided. The survey was approved by the ethical committee of the University of Ghent (BC-07544) (13).

### Study population

The data for the purpose of this study were derived from the second COVID-19 health survey that included specific questions on health-related behaviours. After exclusion of participants with missing data on the sociodemographic covariates and health behaviour indicators, the final study sample contained 28,665 individuals aged 18 years and older. Since the study sample was biased at the level of region (underrepresentation of the Flemish Region and overrepresentation of the Walloon Region), gender (overrepresentation of women), age group (underrepresentation of the youngest (18–24) and oldest (65+)) and educational attainment (underrepresentation of the low educated), post-stratification weights taking these elements into consideration were applied (13).

### Variables

Table 1 gives an overview of the health-related survey questions, their answer categories and the derived indicators (description and construction of the categories).

Table 1

Overview of the self-reported health questions, their answer categories used in the second COVID-19 Health Survey and the related indicators, Belgium 2020

Questions	Answer categories	Indicators: description	Indicators: categories
How tall are you without clothes and shoes?	Length in centimeters	Weight status	1. Underweight (BMI < 18.50) 2. Normal weight (BMI = 18.50-24.99)
How much do you weigh without clothes and shoes?	Body weight in kilogram		3. Overweight (BMI = 25.00-29.99) 4. Obesity (BMI ≥ 30.00)
Since 13 March 2020, has your body weight changed?	1. Yes, lost weight 2. Yes, gained weight 3. No, my body weight remained stable 4. Don't know	Weight gain	1. Yes (category 2) 2. No (categories 1 and 3)
Since 13 March 2020, has the consumption of the following foods increased, remained unchanged or decreased? - sugared-sweetened beverages, i.e. lemonade, cola or ice tea (no 'light') - Sweet or salty snacks such as candy, chocolate, cake, biscuits, ice cream, chips,... - Food prepared out-of-home such as fries, sandwiches, takeaway, home delivery via apps, caterer,...)	1. Increased 2. Remained unchanged 3. Decreased	Change in the consumption of sugared-sweetened beverages Change in the consumption of sweet or salty snacks Change in the consumption of food prepared out-of-home	1. Increased 2. Unchanged 3. Decreased
Since 13 March 2020, have you changed your physical activity habits (walking, cycling, sports...)?	1. I've never done physical activity and now neither 2. I've never done any physical activity, but I've started now 3. I'm doing more physical activity now 4. I do as much physical activity 5. I'm doing less physical activity now	Change in physical activity	1. Increased (categories 2 and 3) 2. Unchanged (categories 1 and 4) 3. Decreased (category 5)
Since 13 March 2020, have you modified your usual consumption of alcohol?	1. I don't use 2. I started using (again) 3. More than usual 4. Less than usual 5. Same as usual 6. I stopped using since then	Change in alcohol consumption	1. Increased (categories 2 and 3) 2. Unchanged (categories 1 and 5) 3. Decreased (categories 4 and 6)

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## Health indicators

The outcome measure was self-reported 'weight gain' over 6 weeks during confinement (Table 1). The five health behaviour indicators were 'change in the consumption of sugar-sweetened beverages', 'sweet or salty snacks', 'food prepared out-of-home', 'change in physical activity' and 'change in the consumption of alcohol'. Response categories were classified as 'increased', 'unchanged' and 'decreased'. The BMI (kg/m<sup>2</sup>) was calculated based on self-reported height and weight. The weight status was classified as underweight, normal weight, overweight and obesity.

## Sociodemographic covariates

Gender (men and women), age group (18–24, 25–34, 35–44, 45–54, 55–64 and 65+ years), education attainment (secondary school diploma or less versus higher education), household composition (living alone; couple without child(ren); couple with child(ren); living alone with child(ren); living with parents, family, friends; other) and employment (no paid job<sup>1</sup>, paid job conducted at the normal work place, paid job via telework, paid job but temporarily interrupted and paid job in other situation) were defined as sociodemographic covariates which could have a possible impact on weight gain.

## Data analysis

In first instance, it was tested if the covariates were individually associated with weight gain ( $P < 0.05$ ). This was the case for all covariates, except for educational attainment (low versus high), and therefore the latter was no longer taken into account. The distribution of the covariates and the health indicators among the study population was determined. Next, the distribution of the weight change over 6 weeks during confinement was reported according to the weight status. The association between self-reported weight gain and weight status was assessed through a logistic regression analysis, adjusting for gender and age group. Odds Ratio (OR), the 95% confidence interval (CI) and the P-values are reported.

Logistic regression models were used to determine the associations between self-reported weight gain as the dependent variable and health behaviour change indicators as independent variables, adjusted for gender, age group, household composition, employment and the health behaviour indicators. Crude and adjusted ORs with 95% confidence intervals (CIs) and P-values were presented in a table; the adjusted ORs were discussed in the text. Since health behaviours may differ by gender, additional stratified analyses were also conducted. All the analyses were performed with SAS® 9.4 (22) using the PROC SURVEY-procedures, taking the post-stratification weights into account.

<sup>1</sup>Unemployment, invalidity, studies, retirement, household work and other situation

## Results

Table 2 presents the distribution of the characteristics of the study population. Overall, 28.6% of the persons aged 18 years and older in Belgium reported to have gained weight during the confinement period, 56.8% reported their weight remained stable and 14.6% reported to have lost weight. The most frequently reported behaviour changes during confinement (Table 2) were an increased consumption of sweet or salty snacks (33.1%) and a decrease in physical activity (28.8%).

Table 2

Distribution of the study population\* (N = 28,665) by sociodemographic covariates and change in self-reported health behaviours in 6 weeks during confinement, second COVID-19 Health Survey, Belgium 2020

Background variables and indicators	Prevalence (%)
SOCIODEMOGRAPHIC COVARIATES	
Gender	
Men	50.9
Women	49.1
Age group	
18–24 years	11.8
25–34 years	15.8
35–44 years	17.0
45–54 years	18.3
55–64 years	17.2
65 + years	19.9
Household composition	
Living alone	16.6
Couple, without child(ren)	32.0
Couple, with child(ren)	30.4
Living alone with child(ren)	4.7
Living with parents, family,...	15.3
Other	1.0
Employment	
No paid job	37.9
Paid job, normal environment	20.9
Paid job, but via telework	27.0
Paid job, but temporarily unemployed	9.4
Paid job, other situation	4.8
SELF-REPORTED WEIGHT STATUS AND CHANGE IN HEALTH BEHAVIOUR IN 6 WEEKS INDICATORS	
Weight status	
Underweight	2.4
Normal weight	44.9
Overweight	34.1
Obesity	18.6
Change in body weight	
Lost weight	14.6
Weight remained stable	56.8
Gained weight	28.6

\*Weighted for age, gender, education and province

Background variables and indicators	Prevalence (%)
Change in the consumption of sugared-sweetened beverages	
Increased	9.2
Unchanged	82.2
Decreased	8.6
Change in the consumption of sweet or salty snacks	
Increased	33.1
Unchanged	59.5
Decreased	7.4
Change in the consumption of food prepared out-of-home	
Increased	7.3
Unchanged	53.2
Decreased	39.5
Change in physical activity	
Increased	23.7
Unchanged	47.5
Decreased	28.8
Change in alcohol consumption	
Increased	17.5
Unchanged	64.9
Decreased	17.6
*Weighted for age, gender, education and province	

Figure 1 shows that the proportion of persons who reported some weight gain over 6 weeks during confinement increased with the increasing BMI categories: weight gain was reported by 9.9% of the persons with underweight, 23.4% of the persons with a normal weight, 31.4% of the persons with overweight and 38.7% of the persons with obesity.

Compared to normal weight persons, the odds of gaining weight was higher for persons with overweight (OR = 1.72 (1.55–1.90), P-value < 0.0001) and obesity (OR = 2.31 (2.05–2.60), P-value < 0.0001), and lower for persons with underweight (OR = 0.31 (0.21–0.48), P-value < 0.0001) (Table 3).

Table 3  
Association between self-reported weight gain in 6 weeks during confinement and self-reported weight status (N = 28,665) by means of crude OR (95% CI) and P-value, second COVID-19 Health Survey, Belgium 2020

Weight status (Reference = Normal weight)	Crude OR	95% CI	P-value
Underweight	0.31	0.21–0.48	< .0001
Overweight	1.72	1.55–1.90	< .0001
Obesity	2.31	2.05–2.60	< .0001

Table 4 shows that persons with an increased consumption of sugar-sweetened beverages during the confinement had higher odds of weight gain (adjusted OR = 1.39 (1.16–1.67), P-value < 0.001). However, persons who decreased their consumption of sugar-sweetened beverages had higher adjusted odds of weight gain (adjusted OR = 1.30 (1.05–1.61), P-value = 0.018). The highest odds of weight gain was observed for persons with an increased consumption of sweet or salty snacks during confinement (adjusted OR = 3.68 (3.30–4.10), P-value < 0.0001). Furthermore, an increased consumption of food prepared out-of-home increased the odds of weight gain (adjusted OR = 1.23 (1.03–1.48), P-value = 0.025). A decreased consumption of food prepared out-of-home was not associated with weight gain. Persons who were less physically active during confinement were almost twice as likely to gain weight (adjusted OR = 1.95 (1.76–2.18), P-value < 0.0001). Persons who were more active during confinement had lower odds of gaining weight in the adjusted model only (adjusted OR = 0.83 (0.72–0.94), P-value = 0.005). Finally, an increased consumption of alcohol during confinement was positively associated with weight gain (adjusted OR = 1.88 (1.69–2.10), P-value < 0.0001). Persons who decreased their consumption had a lower adjusted odds of weight gain (adjusted OR = 0.85 (0.72–0.99), P-value = 0.040).

Table 4

Association between self-reported weight gain in 6 weeks during confinement and change in self-reported health behaviours (N = 28,665) by means of crude and adjusted\* OR (95% CI) and P-value, second COVID-19 Health Survey, Belgium 2020

Self-reported weight gain by change in self-reported health behaviour	Crude			Adjusted*		
	OR	95% CI	P-value	OR	95% CI	P-value
Change in the consumption of sugared-sweetened beverages (Reference = Unchanged)						
Increased	2.59	2.22–3.02	<.0001	1.39	1.16–1.67	0.0004
Decreased	1.07	0.90–1.29	0.439	1.30	1.05–1.61	0.018
Change in the consumption of sweet or salty snacks (Reference = Unchanged)						
Increased	4.52	4.11–4.97	<.0001	3.68	3.30–4.10	<.0001
Decreased	0.92	0.73–1.15	0.447	0.83	0.64–1.08	0.161
Change in the consumption of food prepared out-of-home (Reference = Unchanged)						
Increased	1.92	1.62–2.28	<.0001	1.23	1.03–1.48	0.025
Decreased	1.17	1.07–1.28	0.001	0.97	0.87–1.08	0.602
Change in physical activity (Reference = Unchanged)						
Increased	0.98	0.87–1.10	0.719	0.83	0.72–0.94	0.005
Decreased	2.34	2.12–2.58	<.0001	1.95	1.76–2.18	<.0001
Change in alcohol consumption (Reference = Unchanged)						
Increased	2.64	2.34–2.92	<.0001	1.88	1.69–2.10	<.0001
Decreased	0.94	0.81–1.09	0.423	0.85	0.72–0.99	0.040
* Adjusted for age, gender, household composition, employment and the health behaviour indicators						

Overall, the associations between changes in health behaviours and weight gain were similar for men and women, although three differences were observed (Table 5): women who increased their consumption of food prepared out-of-home had higher adjusted odds of weight gain during confinement than men (adjusted OR = 1.30 (1.04–1.63), P-value = 0.023, and adjusted OR = 1.18 (0.89–1.56), P-value = 0.258, respectively); men who were more physically active during confinement had lower adjusted odds of weight gain than women (adjusted OR = 0.78 (0.62–0.98), P-value = 0.034, and adjusted OR = 0.88 (0.76–1.01), P-value = 0.069, respectively) and women who decreased their alcohol consumption during confinement had a lower adjusted odds of weight gain than men (adjusted OR = 0.81 (0.66–0.98), P-value = 0.33, and adjusted OR = 0.87 (0.69–1.10), P-value = 0.253, respectively).

Table 5

Association between self-reported weight gain in 6 weeks during confinement and change in self-reported health behaviours by means of adjusted\* OR (95% CI) and P-value, stratified by gender, second COVID-19 Health Survey, Belgium 2020

Self-reported weight gain by change in self-reported health behaviour	Men (N = 9296)			Women (N = 19369)		
	OR	95% CI	P-value	OR	95% CI	P-value
Change in the consumption of sugared-sweetened beverages (Reference = Unchanged)						
Increased	1.43	1.03–1.99	0.034	1.38	1.15–1.65	0.0005
Decreased	1.36	0.97–1.90	0.074	1.20	0.93–1.56	0.160
Change in the consumption of sweet or salty snacks (Reference = Unchanged)						
Increased	3.27	2.70–3.96	< .0001	4.06	3.62–4.56	< .0001
Decreased	0.72	0.47–1.10	0.130	0.95	0.69–1.30	0.740
Change in the consumption of food prepared out-of-home (Reference = Unchanged)						
Increased	1.18	0.89–1.56	0.258	1.30	1.04–1.63	0.023
Decreased	1.03	0.86–1.24	0.743	0.93	0.83–1.05	0.256
Change in physical activity (Reference = Unchanged)						
Increased	0.78	0.62–0.98	0.034	0.88	0.76–1.01	0.069
Decreased	2.21	1.85–2.63	< .0001	1.73	1.52–1.96	< .0001
Change in alcohol consumption (Reference = Unchanged)						
Increased	1.90	1.58–2.28	< .0001	1.88	1.65–2.13	< .0001
Decreased	0.87	0.69–1.10	0.253	0.81	0.66–0.98	0.033
* Adjusted for age household composition, employment and the health behaviour indicators						

## Discussion

This study assessed the association between weight gain and changes in health behaviours, such as unhealthy nutritional habits, physical inactivity and alcohol consumption, during the 6-weeks confinement period (from the 13th of March until the end of the second COVID-19 health survey on the 23th of April 2020). More than a quarter (28.6%) of the adults reported weight gain over this period in Belgium. Persons who already suffered from overweight or obesity reported weight gain more frequently. Weight gain during confinement has also been reported in other studies: 22% of adults in the US sampled by Facebook reported gaining weight during self-quarantine due to COVID-19 (23) and 49% of the Italians (survey organised between the 5th and 24th of April 2020, after 7 weeks of confinement) (24).

An increased consumption of sweet or salty snacks and being less physically active during this period both appear to be important health behaviour changes associated with weight gain during the confinement period. These behaviours were also found to be major risk factors in other studies (23, 25, 26). Eating unhealthy food and being physically inactive tend to co-exist (27).

The proportion of persons who indicated having increased their consumption of food prepared out-of-home during confinement is low, which is not surprising due to the closure of bars and restaurants. An increased consumption of alcohol was also found to be a risk factor for weight gain during confinement. On the other hand, the confinement also had a positive influence in some respects. For instance, women who decreased their alcohol consumption had lower odds of weight gain. The closure of bars and restaurants had undoubtedly an impact on the alcohol consumption, especially for social drinkers and youngsters who could not go out anymore whereby their lower consumption. However, other people possibly consumed more alcohol at home during confinement.

In case of a next epidemic wave, it is necessary that policy makers pay a greater attention to these unintended consequences, so that the prevalence of overweight and obesity does not continue to increase. According to the second COVID-19 health survey during the

confinement, 19,0% of the Belgium adults were classified as obese, a prevalence that was significantly higher than that of the national Health Interview Survey in 2018 (15,9%) (13). It will be important to consider our eating habits, especially with regard to the consumption of sweet and salty snacks. A balanced diet, rich in nutrients and antioxidants, not only helps controlling our body weight (4–6), it also helps to have a strong immune system (24, 28, 29). It is crucial, especially during confinement, to keep good dietary habits including fresh fruits, vegetables, whole grains, plant and animal protein and healthy fats. In addition, hydration is important and water is the healthiest and cheapest way to do this (29). Beyond the direct effect of unhealthy eating and increased obesity during the confinement measures, the COVID-19 pandemic further amplified the burden of obesity by more severely affecting people with overweight or obesity. This highlights the need for more ambitious policies to address the multiple determinants of obesity and unhealthy eating in Belgium. Potential policy actions could be labelling to help people making healthy food choices, legislation to end the promotion of foods high in fat, sugar or salt (HFSS) and banning the advertising of HFSS products on TV and online.

Besides a healthy diet, staying active during confinement is also an important health behaviour, not only for controlling the weight status, but also for the well-being and the quality of life (30). In Belgium, even with the confinement measures, the population still had the opportunity to go outside, but in their local environment. Additionally, the combination of good weather conditions during this period and more free time due to a change in the work situation for some people made it easier to be active. This was also observed in this survey since 47.5% of the population has indicated that their physically activity habits remained the same and even 23.8% was more physically active in this period. Nevertheless, 28.8% of the adults were less physically active in this period, which could be attributed to confinement measures such as closure of indoor sport facilities, or the extra burden of home schooling because of school closure.

This study has several strengths. Firstly, the online tool made it possible to react rapidly to the crisis. The first COVID-19 health survey was launched only three weeks after the confinement. A web survey not only has financial advantages, but also logistical ones (automatic data entry, user-friendly by checks and automatic branching logic) whereby high quality data were instantly available (31, 32). Moreover, the survey could be answered on several devices like a mobile phone, a tablet and computer that makes it very accessible. Another strength is that a large sample of the population aged 18 years and older was collected on a convenience sample. Although it is a fast method of sampling, it is also a more biased process since there is no randomisation (21). Consequently, the composition of our sample differed from the composition of the general Belgian population aged 18 years and older. An overrepresentation of women and higher educated people, as well as an underrepresentation of elderly was also established in the French NutriNet-Santé cohort study who also applied weights in the analyses to improve the representativeness of the population (26). Besides elderly and low educated people are also the groups that are less motivated to participate in other web surveys (33). The last shortcoming of this study is that self-reported data may be related to misreporting (24). It is well known that the BMI based on self-reported measures is often underestimated (3).

## Conclusion

The results from this study may help the government to determine specific strategies to prevent a further increase in the prevalence of overweight and obesity if a similar crisis occur or new confinement measures are introduced due to COVID19 in the future. This is important since overweight and obese people not only have an increased risk of morbidity (cardiovascular diseases, diabetes type 2 and some cancers) and premature death, but recent studies have shown that obesity increases the risk of severe COVID-19 which may result in an increased pressure on the health care system.

## Abbreviations

BMI: Body mass index

OR: Odds Ratio

CI: Confidence interval

HFSS: foods high in fat, sugar or salt

## Declarations

*Ethics approval and consent to participate*

The survey was approved by the ethical committee of Ghent University (BC-07544). The participants had to agree with the consent before they could start with the survey.

#### *Consent for publication*

There are no details on individual participants within the manuscript.

#### *Availability of data and material*

Access to the data of the second Belgian COVID-19 health survey can be requested by sending an e-mail to HIS@sciensano.be.

#### *Competing interests*

The author(s) declared no competing interests with respect to the research, authorship, and/or publication of this article.

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#### *Authors' contribution*

SDr, SVdV and SD conceived the framework of the study. SDr performed the statistical analyses and drafted the manuscript. All authors contributed to the interpretation of the results and the critical revision of the manuscript. All the authors approved the final version of the manuscript.

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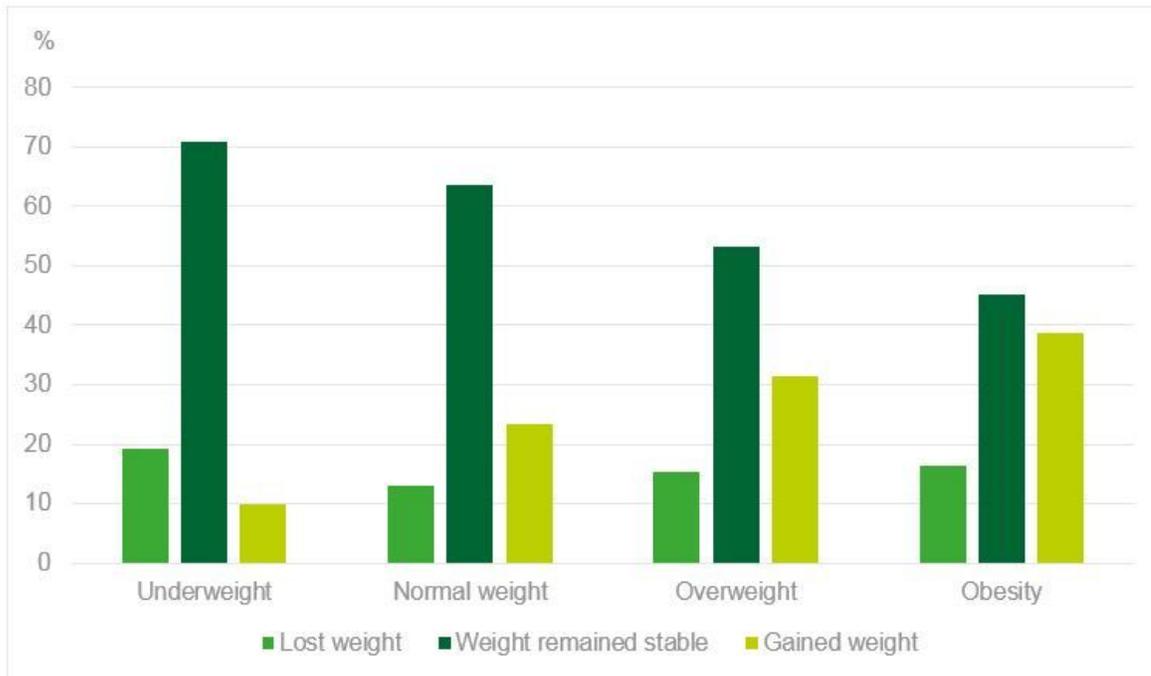
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## Figures



**Figure 1**

Distribution (%) of the self-reported weight change in 6 weeks during the confinement period according to the self-reported weight status, second COVID-19 Health Survey, Belgium 2020