Parental obesity and the transition from teenagers of normal-weight to young adults with obesity in Mexico

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Abstract

Objective. To estimate to what extent the parental transition to obesity affects the likelihood that normal-weight teenagers also transition to obesity. We depart from the hypothesis that the transition to obesity specifically among parents is the main factor affecting the development of obesity during adolescence. **Materials and methods.** Using two rounds of the longitudinal Mexican Family Life Survey (MxFLS) and logistic regressions, we investigated how family weight-related characteristics affected the likelihood of teenagers 13 to 18 years of age in 2002 of becoming affected by obesity after seven to ten years. **Results.** The results confirm that if any of the parents were affected by obesity during the teenage period, the adolescent is more likely to become affected by obesity. **Conclusions.** Results confirm that, different from childhood obesity, the transition of parents to obesity during the adolescence of teenagers is the most important family factor affecting such transition.

Keywords: obesity; sociological factors; family; parent-child relationship

Resumen

Objetivo. Calcular en qué medida la transición hacia la obesidad, específicamente del padre o la madre, tiene un impacto en el desarrollo de obesidad entre adolescentes. **Material y métodos.** Se utilizaron dos rondas de la Encuesta Nacional sobre Niveles de Vida de los Hogares (ENNViH) y regresiones logísticas para investigar cómo las características de peso/talla de los miembros del hogar afectan las probabilidades de que adolescentes desarrollen obesidad. **Resultados.** Cuando alguno de los padres desarrolla obesidad, el o la adolescente tiene más probabilidades de hacer una transición hacia la obesidad, en comparación con los casos en los que los padres mantienen un peso/talla normales. **Conclusión.** Se confirma que la transición de los padres durante la adolescencia es el principal factor que tiene un impacto en el desarrollo de obesidad entre adolescentes.

Palabras clave: obesidad; factores sociológicos; familia; relación padres-hijos

There is enough evidence concerning the influence of families on the development of overweight and obesity among children and adolescents, so that it may be considered a scientifically proven fact.[1,2] International standards[3] and national programs[4,5] incorporate families as a main component of prevention, control, and reduction of bad nutrition practices. The influence of the family has been explained in genetic and

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epigenetic terms, as well as a sociological perspective that aims to estimate environmental factors intervening in the genetic component.

However, there is a knowledge gap related to environmental factors concerning exactly what family characteristics have a major influence on the development of obesity among children and adolescents. A very important aspect that is missing in family research concerning obesity is to what extent the transition to overweight of specifically the father, or the mother, the siblings or other household members, or of all family members, affect the probabilities that a child or a teenager may develop overweight or obesity. Why would the genetic factors have an impact until adolescence rather than childhood?

The objective of the study is to estimate to what extent the parental transition to obesity affects the likelihood that normal-weight teenagers also transition to obesity. We depart from the hypothesis that the transition to obesity specifically among parents is the main factor affecting the development of obesity during adolescence.

The above is important because previous studies[6-8] have found that the main family factor affecting the likelihood that children under 12 years of age transition to obesity, rather than the condition of the father or the mother, is the presence of any family member having obesity or developing obesity. Our first contribution is to determine which is the predominant family factor affecting teenagers.

The second contribution is that we provide unique seven to ten-years longitudinal evidence concerning to what extent the weight/height family dynamics has an impact on the likelihood of an adolescent developing obesity. Few family studies concerning obesity have a medium-term perspective as the present study.

The third contribution is to emphasize the importance of the weight/height family dynamics of family members for prevention, control, and reduction programs of bad nutrition. Current programs correctly emphasize the importance of families.[9-11] It is likely that messages concerning healthy nutritional habits may not be well received among families where all family members have or are developing obesity.

Drawing from family theories,[12-14] it is possible to identify that family and parental relationships may affect an individual's propensity to become overweight or affected by obesity through several mechanisms, including genetic, cultural, psychological, behavioral, and social factors or, more likely, a combination of the above.

A biological family may impact an individual's propensity to become overweight or affected by obesity through genetic factors,[15,16] even after controlling for environmental factors.[17] Several studies have investigated the genetic component of obesity and the extent to which adiposity, specifically body mass index (BMI), is passed down from one generation to the next.[18,19] A comparison of health surveys from the UK, USA, China, Indonesia, Spain, and Mexico[19] demonstrated that the intergenerational elasticity of BMI is comparable across time and countries, even controlling for the level of economic development of the country.

Additionally, families may affect an individual's likelihood of becoming affected by obesity through cultural values and customs. Among several cultures, including Mexico, overweight children are regarded as "healthy" and there is social pressure concerning such standards.[20] The main mechanisms through which such cultural factors operate are perceptions and attitudes.

A third mechanism through which families may affect children's weight is through the accepted level of activity and exercise and, of course, diet. Family meal patterns have a major influence on overweight and obesity.[21]

An additional and most direct mechanism of parental influence on the propensity of children to become affected by obesity is contagion or imitation.[22,23] When parents become affected by obesity, adolescents are more likely to become affected by obesity,[24] which is the topic that we addressed in this study.

BMI and obesity are important outcomes in Mexico.[25,26] The overweight and obesity rate in people aged 15-74 years in Mexico is 72.5%, as compared to the 53.9% average rate of the 34 Organization for Economic Cooperation and Development (OECD) countries (18.6 more percentage points)[27] and is one of the highest rates in the world. The latest Health and Nutrition survey (Ensanut 2018) estimates[28] that the combined prevalence of overweight and obesity among children aged 5-11 years old in 2016 in Mexico was 35.6%. Among female children, the prevalence of overweight and obesity was 18.4 and 15.0%, respectively. Among male children, the prevalence of overweight and obesity was 17.7 and 20.1%, respectively. These abnormal weight levels in children are among the highest in the world.

Among adolescents aged 12-19 years old, the combined prevalence of overweight and obesity in Mexico was 38.4% in 2018, 3.5% above the observed prevalence in 2012 (34.9%). Among teenage girls, the prevalence of overweight and obesity was 27.0 and 14.1%, respectively; among teenage boys, the prevalence of overweight and obesity was 20.7 and 15.1%, respectively. This trend is the most significant because nearly 39.0% of teenagers show an abnormal relation to weight/height by the age of 19. The health, social, and economic costs of such a trend remain to be determined. Most importantly, there

is no clear sign of retrenchment of the obesity epidemic in Mexico.

Materials and methods

Data

We employed two rounds of the Mexican Family Life Survey (MxFLS)[29,30] to estimate changes in the BMI of male and female teenagers who were between 13 and 19 years of age in 2002, and we followed them up to the period of 2009-2012. The MxFLS is a unique longitudinal study that enables the follow up of a national random sample of households and families containing extensive economic and demographic information at the household and individual levels.

The first round of the survey (MxFLS-1) took place in 2002 and included 8 440 households (38 223 individuals) in 147 urban and rural communities throughout the country. The MxFLS-3 aimed to find and re-interview the same sample from the MxFLS-1—including individuals who migrated within Mexico or emigrated to the United States—with a 90.0% success rate in re-contacting and re-interviewing the sample during the period from 2009-2012.

For this study we included 1 783 individuals with complete information who were teenagers (13 to 19 years of age) in 2002 and were 20 to 29 years of age in the period 2009-2012.

Variables

Outcome variables: Change in BMI status between 2002 and 2009-2012

We calculated the BMI from 2002 and 2009-2012 as weight (in kilograms) divided by the squared height in meters and categorized the participants into four groups following international standards: a) underweight: BMI ≥ 15 and BMI < 18.5, b) normal: BMI ≥ 18.5 and BMI < 25, c) overweight: BMI ≥ 25 and BMI < 30, d) obesity: BMI ≥ 30 and BMI ≤ 45. Trained personnel accompanying each interviewer measured the weight and size of each of the family members.

Based on the 2002 and 2009-2012 measures of BMI, we constructed three dependent dichotomic variables, aiming to evaluate alternative paths to obesity:

a) Low or normal BMI in 2002 and overweight or obesity BMI in 2009-2012.
b) Overweight BMI in 2002 and obesity BMI in 2009-2012.

c) Low, normal, or overweight BMI in 2002 and obesity BMI in 2009-2012.

Control variables

Individual characteristics

Concerning individual characteristics, we included sex, the highest level of education reached by the period of 2009-2012, whether the individual worked during the 12 months before the interview and whether the individual was working or studying at the time of the endline visit.

The completed educational level was classified as none, primary, secondary, high school, or higher. Concerning work, the relevant question was: *During the last 12 months, did you work or perform any other activity to help household expenditures?* The response was coded yes or no.

Family weight-related variables

Using the height/weight information of each household member, we were able to calculate the BMI of each family member, and we identified whether each individual was the head of the household, spouse, or other family member both in 2002 and 2009-2012.

Drawing from the above information, we identified the following family weight-related variables for each household member:

a) At least two overweight family members in 2002.
b) At least two family members with obesity in 2002.
c) The head of the household affected by obesity in 2002.
d) The spouse was affected by obesity in 2002.

Concerning family changes in weight-related variables, we constructed two additional variables:

e) The head of the household became affected by obesity between 2002 and 2009-2012.
f) The spouse became affected by obesity between 2002 and 2009-2012.

Socioeconomic proxy: condition of the housing unit

To measure the relative socioeconomic level of individuals and households, we used five characteristics of the dwelling unit, including (1) number of rooms, (2) source of water, (3) sanitary service, (4) garbage disposal, (5) fuel. We identified any housing unit that scored positive in one or more of these indicators as precarious.

Models

For each of the three possible outcomes, we fit logistic regression models with the baseline data as the reference category to estimate the odds ratio (ORs) for falling into the reference category. Logistic regressions are the appropriate model in this case, considering the longitudinal nature of the study and the purpose of the study, which is to estimate the likelihood that an adolescent transitions into obesity during early adulthood.

The following is the form of the equation:

$$logit(p) = log\left(\frac{p(y)}{1-p(y)}\right) = \beta_o + \beta_1 x_{i2} + \beta_2 x_{i2} + \cdots + \beta_p x_{im} + error$$

In the first model, *p* is the proportion of children transitioning from normal or underweight to overweight. In the second model, *p* is the proportion of children transitioning from underweight, normal weight, or overweight to obesity. Furthermore, x_{im} refers to individual characteristics including sex, educational level, work, and whether the individual was studying or working at the time of endline visit as control variables. We excluded women who were pregnant in 2002 or at the 2009-2012 follow-up.

To account for the variation in observations we used robust standard errors. The study estimated models and coefficients with Stata 12 using the *logit* command (StataCorp 2020). Considering the complex nature of the sample, the study required the use of the 2002 frequency weights.

Results

Dependent variables

Table I shows the unweighted distributions of the dependent variables, including the three BMI groups (low weight or normal weight, overweight, and obesity) in 2002 and 2009-2012. The results show that in 2002, 14.2% of the sample had a low BMI, 62.7% had a normal BMI, 17.0% were affected by overweight, and an additional 6.1% were affected by obesity; a total of 23.1% (nearly one quarter) of participants between the ages of 13 and 19 in 2002 showed excess weight/height.

From 2009 to 2012, the proportion of people with a low BMI decreased to 2.80%, and people with a normal weight represented 46.89% of the longitudinal sample; 32.8% were affected by overweight, and 17.5% were affected by obesity. These results show that the proportion of individuals with an unhealthy BMI doubled within a period of seven to ten years.

Table I also shows that among people with low or normal weight in 2002, 31.4% became affected by overweight in 2009-2012, and an additional 6.3% became affected by obesity.

Table II shows the sample sizes without adjustments for each of the comparison groups. Among the 1 371 people who had a low or normal BMI in 2002, 31.4% became affected by overweight and 6.3% became affected by obesity, for a total of 37.7% transitioning to abnormal weight (group 1). Group 2 included 304

Table I

Weight/height status of teenagers 13-19 years of age in 2002 and 2009-2012 in Mexico

BMI Status in 2002	BMI Status in 2009-2012				
	Low	Normal	Overweight	Obesity	Total
Low (n= 253)	66.00	22.37	5.13	0.96	14.19
Normal (n= 1 118)	32.00	73.80	68.55	26.92	62.70
Overweight (n= 304)	0.00	3.23	23.25	45.19	17.05
Obesity (n= 108)	2.00	0.60	3.08	26.92	6.06
Total (n= 1 783)	100.00	100.00	100.00	100.00	100.00
	n=50	*n= 836*	*n= 585*	*n= 312*	*n= 1 783*
Low	13.04	73.91	11.86	1.19	100.00
Normal	1.43	55.19	35.87	7.51	100.00
Overweight	0.00	8.88	44.74	46.38	100.00
Obesity	0.93	4.63	16.67	77.78	100.00
Total	2.80	46.89	32.81	17.50	100.00

Source: Calculations using the MxFLS of 2002 and 2009-2012.
BMI: body mass index; MxFLS: Mexican Family Life Surveys.

cases who were affected by overweight in 2002, among which 46.4% became affected by obesity by 2009-2012. Finally, group 3 included 1 675 cases who were low weight, normal weight, or overweight in 2002; among these individuals, 13.6% became affected by obesity by 2009-2012.

Control variables

Table II shows the descriptive statistics of the control variables without adjusting. The results show that 49.97% of the sample were men and 68.26% were single (considering that individuals were in the age range of 20 to 28 by 2009-2012).

The third panel of table II shows family characteristics related to weight: 25.13% of the sample had at least two members with low BMI, and 63.66% had at least two members with normal BMI. Most importantly, 31.63% of the families had at least two members affected by overweight, and 19.24% had at least two members affected by obesity. Note that these categories are not mutually exclusive because one family may simultaneously have at least two members with normal weight and at least one member affected by obesity.

Approximately 62% of participants had a head of household and a spouse who was affected by overweight, and 54.63% of families had at least one member affected by obesity. In more than 6.0% of the families surveyed, either the household head or the spouse became affected by obesity by 2009-2012. However, in more than 54.29% of families, at least one member became affected by obesity during the seven- to ten-year period.

Regarding the socioeconomic level, which was estimated based on housing conditions, table II shows that 55.02% of the sample lived in a precarious housing unit in 2002.

Individual and family characteristics and change in BMI status

Table III shows the proportion of individuals in each of the three comparison groups considering the individual and family characteristics of the study population. This analysis assessed the importance of each variable in the transition to obesity, without controlling for other factors.

Concerning those who had low or normal BMI in 2002 and transitioned to overweight or obesity (group 1), table III shows that this process is more common among families with at least two members affected by obesity (52.6%) or affected by overweight (42.12%) and among males (44.33%) and married people (43.57%).

Concerning the second group, which includes young people who were affected by overweight in 2002

and became affected by obesity in 2009-2012, table III shows that this pattern is prevalent among individuals who completed primary school only (63.64%, consider that by 2009-2012 this group was between 20 and 28 years of age).

Finally, in group 3, which includes individuals who were low weight, normal weight, or overweight in 2002

Table II
Teenagers 13-19 years of age in 2002 and 2009-2012 in Mexico: descriptive statistics

Variable	Cases	Proportion	95%CI
Low or normal BMI in 2002 and overweight or obese in 2009-2012	1 371	0.38	0.35,0.40
Low or normal BMI in 2002 and overweight in 2009-2012	1 371	0.31	0.29,0.34
Overweight in 2002 and obese in 2009-2012	304	0.46	0.41,0.52
Low, normal or overweight in 2002 and obese in 2009-2012	1 675	0.14	0.12,0.15
Individual characteristics 2009-2012			
Male	1 781	0.50	0.48,0.52
Single	1 780	0.68	0.66,0.70
Worked in the past 12 months	1 779	0.49	0.47,0.52
No education	1 612	0.01	0.00,0.01
Primary	1 612	0.13	0.11,0.15
Secondary	1 612	0.35	0.32,0.37
Not studying or working	1 779	0.37	0.35,0.39
Family variables			
At least two family members with low BMI	1 783	0.25	0.23,0.27
At least two family members with normal BMI	1 783	0.64	0.61,0.66
At least two family members with overweight BMI	1 783	0.32	0.29,0.34
At least two family members with obese BMI	1 783	0.19	0.17,0.21
Head of HH obese	1 783	0.63	0.61,0.65
Spouse obese	1 783	0.62	0.60,0.65
Other members obese	1 783	0.55	0.52,0.57
Head of HH became obese	1 783	0.07	0.06,0.08
Spouse became obese	1 783	0.06	0.05,0.07
At least one family member increased BMI to obese	1 783	0.54	0.52,0.57
Socioeconomic proxy			
Precarious housing unit	1 783	0.55	0.53,0.57

Source: Calculations using the MxFLS of 2002 and 2009-2012.
BMI: body mass index; MxFLS: Mexican Family Life Surveys.

and became affected by obesity seven to ten years later, table III shows that such a transition is more prevalent among families with at least members affected by obesity (23.77%) or overweight (22.37%) or when the head of the household (17.05%) or the spouse was affected by obesity (14.64%).

Factors affecting the transition to obesity

Table IV shows the results of the logit models used to measure the impact of each factor analyzed, controlling for all other factors.

Concerning the transition of low and normal-weight individuals to overweight or obesity, the first panel of table IV shows that when the spouse became affected by obesity, individuals were 2.68 times more likely (95%CI 2.65-2.71) to become affected by obesity as well, after controlling for all other factors. Equally important is when the head of the household becomes affected by obesity. Males were more likely than females to become affected by obesity, but when the spouse of the head of the household was affected by obesity at the initial period or if other family members were affected by obesity, the chances of becoming affected by

obesity increased. Note that not studying nor working increased the likelihood of becoming affected by obesity by 40%, which was similar to the increased likelihood associated with the presence of ahead of the household with obesity. Additionally, although obesity was prevalent among all socioeconomic groups in the country, a precarious housing unit was not a contributing factor to the transition to obesity.

Concerning individuals who were overweight in 2002 and became affected by obesity in 2009-2012 (group 2), table IV shows that the most relevant factors associated with such transition were the presence of ahead of the household affected by obesity, at least two other family members being affected by obesity and if the spouse became affected by obesity.

Finally, concerning all individuals who were low, normal, or overweight at the initial point in time and became affected by obesity in 2009-2012, the third panel of table IV shows that the most relevant factors affecting the transition were when at least two family members were affected by overweight or obesity but also if the spouse became affected by obesity or if the head of the household was affected by obesity at the initial period.

Table III
PROPORTION CHANGE IN BMI STATUS BETWEEN 2002 AND 2009-2012 BY CONTROL VARIABLE

	Low or normal BMI in 2002 and overweight or obese in 2009-2012		Overweight in 2002 and obese in 2009-2012		Low, normal or overweight in 2002 and obese in 2012	
	Mean	*95%CI*	*Mean*	*95%CI*	*Mean*	*95%CI*
Male	0.44	0.41-0.48	0.50	0.42-0.50	0.14	0.12-0.17
Female	0.31	0.27-0.34	0.43	0.36-0.43	0.13	0.11-0.15
Married	0.44	0.39-0.48	0.54	0.44-0.54	0.18	0.15-0.22
Single	0.35	0.32-0.38	0.42	0.35-0.42	0.11	0.10-0.13
Working	0.41	0.37-0.44	0.45	0.38-0.45	0.14	0.11-0.16
Primary school	0.39	0.31-0.47	0.64	0.47-0.64	0.12	0.07-0.17
Secondary school	0.39	0.35-0.44	0.41	0.31-0.41	0.15	0.12-0.18
No study no work	0.36	0.32-0.40	0.51	0.41-0.51	0.14	0.12-0.17
At least two family members with low BMI	0.29	0.24-0.33	0.47	0.31-0.47	0.08	0.05-0.10
At least two family members with normal BMI	0.39	0.36-0.42	0.46	0.37-0.46	0.11	0.09-0.12
At least two family members overweight	0.42	0.37-0.47	0.49	0.43-0.49	0.22	0.19-0.26
At least two family members obese	0.53	0.45-0.60	0.47	0.36-0.47	0.24	0.19-0.29
Head of household obese 2002	0.42	0.38-0.45	0.50	0.44-0.50	0.17	0.15-0.19
Spouse obese 2002	0.41	0.38-0.45	0.45	0.38-0.45	0.15	0.12-0.17
Head of household became obese in 2009-2012	0.42	0.32-0.51	0.30	0.00-0.30	0.07	0.02-0.12
Spouse became obese in 2009-2012	0.31	0.21-0.40	0.36	0.07-0.36	0.10	0.05-0.16
Precarious housing unit	0.38	0.35-0.42	0.46	0.39-0.46	0.13	0.11-0.15

Source: Calculations using the MxFLS of 2002 and 2009-2012.
BM: body mass index; MxFLS: Mexican Family Life Surveys.

Table IV
Logit models by type of transition. Mexico 2002 to 2009-2012

Variable	Low or normal BMI in 2002 and overweight or obese in 2009-2012		Overweight in 2002 and obese in 2009-2012		Low, normal or overweight in 2002 and obese in 2012	
	Odds Ratio	95%CI	Odds Ratio	95%CI	Odds Ratio	95%CI
Male	1.91	1.90-1.93	1.67	1.65-1.69	1.54	1.53-1.55
Single	0.77	0.77-0.77	0.27	0.27-0.28	0.41	0.41-0.42
Working	1.27	1.26-1.29	0.61	0.60-0.63	1.58	1.56-1.61
Primary school	1.14	1.13-1.16	0.98	0.96-1.01	0.85	0.84-0.86
Secondary school	1.06	1.06-1.07	0.56	0.55-0.57	1.25	1.24-1.26
No study no work	1.41	1.39-1.42	0.99	0.96-1.02	1.78	1.76-1.81
At least two family members overweight	1.03	1.02-1.04	1.19	1.16-1.21	3.07	3.04-3.09
At least two family members obese	1.49	1.48-1.51	1.95	1.92-1.98	2.44	2.41-2.46
Head of household obese 2002	1.40	1.39-1.41	2.32	2.28-2.36	1.6	1.59-1.62
Spouse obese 2002	1.53	1.52-1.54	0.75	0.74-0.76	0.77	0.76-0.78
Head of household became obese in 2009-2012	2.38	2.35-2.41	0.17	0.16-0.18	0.15	0.14-0.15
Spouse became obese in 2009-2012	2.68	2.65-2.71	1.91	1.86-1.97	2.49	2.46-2.52
Precarious housing unit	0.99	0.98-0.99	0.54	0.53-0.55	0.70	0.69-0.73
Prob > chi2 =		0.000		0.000		0.000

Source: Calculations using the MxFLS of 2002 and 2009–2012.
BMI: body mass index; MxFLS: Mexican Family Life Surveys.

Discussion

In previous sections it was shown that several studies have investigated the extent to which adiposity, specifically BMI, is passed down from one generation to the next. Correlations between BMI of parents and siblings and children, adolescents, and young adults are statistically significant and high, between .25 and .30. Such correlations are important, but they have the limitation that, in general, are based on crossectional data o are simultaneous static comparisons over time.

Different from previous studies, one contribution of our study is that it is a longitudinal follow-up along with a seven to ten-year period. To our knowledge, this is the first longitudinal study of family factors affecting adolescent obesity in Mexico over a medium-term period.

Although the attrition rate is acceptable in a seven to ten-year longitudinal study, we acknowledge as a possible limitation of the study, the lack of evidence concerning trends among missing youths in the sample although we restricted the analysis to children that remain within the household of origin.

One limitation of current family-obesity research is that, at large, studies concentrate on pairwise relationships (mother-daughter, father-son, sibling-to-sibling) without consideration of the transitions of other family members to obesity. Present research demonstrates

genetic influence, but does not analyze the family environment and, most importantly, fails to consider the family changing weight/height across time.

In this study we have presented evidence, not only of how the family environment contributes to obesity development among young adults, but we had also shown, how this relationship changes over time. Only when we consider the weight/height of all family members is it possible to describe the family environment comprehensively.

We have found in this study that it makes a great difference when only one family member transitions to obesity, than is the case when several or all family members transition into obesity.

Finally, different from previous family research on obesity development, we have found that the influence of the family is different during childhood as compared to adolescence. In a previous study[6] we found that, during childhood (under 12 years of age), the most important family factor affecting the transition to obesity is the presence of any family member having obesity or developing obesity. A household with two or more members with obesity has 4.6 more chances of a child developing obesity.

Such influence is different among adolescents. In the case of adolescents, the most important factor is if the father or the mother (or both) develop obesity,

regardless of the presence of other family members with obesity. Against expectations, among youths, the influence of parents is more important than the general family environment.

The above results are important because they suggest that the conceptual framework of programs aiming to prevent, control and reduce bad nutrition should consider the weight/height balance of all family members considering that the condition of some family members, like the father or the mother may be more significant to the adolescent, than the condition of other family members.

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Authors contributions

DH contributed to the main idea and purpose of the study and conducted the preliminary analysis to develop the base model for populations 19 years of age and older. CB adapted the base model for teenagers and conducted the analysis and drafted the paper. Both authors interpreted the results and their implications, commented on the manuscript at all stages and approved the final submitted version.

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