

Supplementary file

Demographic data (age, height, weight, BMI)

	N	Min	Max	Mean	SD
Age (years)	509	18	35	23.05	2.545
Height (cm)	507	150.0	200.0	171.212	8.3437
Weight (kg)	509	42.0	148.0	64.112	12.1101
BMI					
	507	15.9	43.7	21.7706	2.98811
$\frac{\text{Weight (kg)}}{(\text{height in metre})^2}$					

*SD – standard deviation; BMI – body mass index

Respondents by BMI categories

BMI		N = 507	%
BMI < 18.5	Underweight	40	7.9
18.5 ≤ BMI < 25	Healthy weight	408	80.5
25 ≤ BMI < 30	Overweight	53	10.5
30 ≤ BMI < 40	Obesity	4	0.8
BMI ≥ 40	Extreme obesity	2	0.4

Information about passed exams in Bromatology and Nutrition

	Bromatology (N=509)		Nutrition (N=509)	
	N	%	N	%
Yes	242	47.5	187	36.7
No	136	26.7	181	35.4
I do not have that exam in my curricula	131	25.7	140	27.4

Assessment of lifestyle related to physical activity (1 – predominantly sedentary, 5 – very active)

Number of hours spent in moderate physical activities and sitting

	N	Min	Max	Mean	SD
physical activities (h/week)	509	0	234	4.86	12.060
Sitting/lying down (h/day)	500	1	23	8.77	3.941

List of foods that the respondents marked as allergens

	N	%
Milk and milk products	9	26.47
Eggs	2	5.88
Fish and seafood	3	8.82
Cereals containing gluten (wheat, barley, oats, rye)	4	11.76
Nuts (hazelnuts, almonds, walnuts, cashews, Brazil nuts, pistachios)	4	11.76
Peanuts	4	11.76
Sulfur-dioxide	1	2.94
Orange	1	2.94
Honey	1	2.94
Strawberries	2	5.88
Cherries	1	2.94
Kiwi	5	14.71
Raspberries	1	2.94
Cinnamon	1	2.94
Onion	1	2.94
Apricots	1	2.94
Apples	2	5.88

Peaches	2	5.88
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Possession of knowledge about the health effects of nuts

		Possession of knowledge about the health effects of nuts			
		Yes	No	I do not know	Total
Faculty type N=509	Faculty of pharmacy	279 72.8% out of 383	26	77	383
	Non-pharmacy faculty	64 50.4% out of 127	20	43	127
	Total	343	46	120	509
Exam in Bromatology N=509	Passed	198	7	37	242
	Not passed	83	15	38	136
	Do not have exam	62 47.3% out of 131	24	45	131
	Total	343	46	120	509
Exam in Nutrition N=508	Passed	153	6	28	187
	Not passed	121	15	45	181
	Do not have exam	68 48.5% out of 140	25	47	140
	Total	342	46	120	508

Students' knowledge of nuts

Question	Answer	Correct answers (N = 509)	Correct answers (%)
1. In the dietary recommendations (nutrition pyramid), nuts are classified together with the group of foods:	Cereals	141	27.7
	milk and milk products	14	2.8
	Fruits	107	21.0
	vegetables	4	.8
	<i>meat and eggs</i>	67	13.2
	Oils	42	8.3
	I do not know	134	26.3
2. Nuts are an important food group in the Mediterranean diet:	<i>Yes</i>	300	58.9
	No	35	6.9
	I do not know	174	34.2
3. Nuts are an important food group in the DASH diet:	<i>Yes</i>	150	29.5
	No	18	3.5
	I do not know	341	67.0
4. Nuts are definitely not a source of which mineral in the diet?	Selenium	10	2.0
	<i>Iodine</i>	181	35.6
	magnesium	31	6.1
	Iron	31	6.1
	Zinc	30	5.9
	I do not know	226	44.4
5. Nuts are a rich source of which vitamin in the diet?	vitamin A	24	4.7
	vitamin C	14	2.8
	<i>vitamin E</i>	200	39.3
	vitamin D	19	3.7
	vitamin B12	88	17.3

	I do not know	164	32.2
6. Which of the nuts representatives is considered a good source of dietary selenium?	Almond	52	10.2
	Hazelnut	8	1.6
	<i>Brazilian nut</i>	121	23.8
	Walnut	26	5.1
	Cashew	69	13.6
	I do not know	233	45.8
7. Nuts are primarily a source of which polyunsaturated fatty acid?	EPA	39	7.7
	DHA	28	5.5
	<i>linoleic acid</i>	42	8.3
	alpha-linolenic acid	63	12.4
	arachidonic acid	35	6.9
	I do not know	302	59.3
8. Which of nuts has the highest content of saturated fatty acids and is therefore the least recommended in the diet compared to other stone fruits?	Peanuts	219	43.0
	Almond	30	5.9
	Walnut	23	4.5
	Hazelnut	8	1.6
	<i>Cashew</i>	56	11.0
	I do not know	173	34.0
9. There is an approved health claim for walnuts that reads: "Walnuts contribute to improving the elasticity of blood vessels." The stated health statement refers to the daily intake of walnuts in which of the stated quantities?	10g	42	8.3
	15g	76	14.9
	30g	112	22.0
	50g	37	7.3
	100g	11	2.2
	more than 100g	1	.2
	I do not know	230	45.2
10. The usual thermal processing of nuts has an effect on their chemical composition and thus on their health effects, in which direction?:	<i>Lowers</i>	261	51.3
	increases	19	3.7
	do not change	64	12.6
	I do not know	165	32.4

	Lowers	96	18.9
11. Thermal processing of nuts impacts allergenicity, in which direction:	increases	39	7.7
	<i>do not change</i>	143	28.1
	I do not know	231	45.4
	<i>True</i>	231	45.4
12. According to its composition and health effects, peanuts can be counted as a nut, even though it belongs to the leguminous family:	False	40	7.9
	I do not know	238	46.8
	low content of mineral substances	16	3.1
13. By what characteristic does the chestnut significantly differ from other types of nuts?	lower content of vitamin C	18	3.5
	higher energy value	37	7.3
	<i>higher carbohydrate content</i>	121	23.8
	I do not know	317	62.3

Correct answers are indicated in *italic*.

Influence of passed exam (Bromatology and/or Nutrition) on Students' knowledge of nuts

Question	Answer	N = 249	%
1. In the dietary recommendations (nutrition pyramid), nuts are classified together with the group of foods:	cereals	76	30.5
	milk and milk products	10	4.0
	Fruits	71	28.5
	vegetables	4	1.6
	<i>meat and eggs</i>	37	14.9
	Oils	22	8.8
	I do not know	29	11.6
	2. Nuts are an important food group in the Mediterranean diet:	<i>Yes</i>	178
No		24	9.6
I do not know		47	18.9
3. Nuts are an important food group in the DASH diet:	<i>yes</i>	127	51.0
	no	18	7.2
	I do not know	104	41.8
4. Nuts are definitely not a source of which mineral in the diet?	selenium	8	3.2
	<i>iodine</i>	105	42.2
	magnesium	21	8.4

	iron	16	6.4
	zinc	16	6.4
	I do not know	83	33.3
5. Nuts are a rich source of which vitamin in the diet?	vitamin A	13	5.2
	vitamin C	9	3.6
	<i>vitamin E</i>	141	56.6
	vitamin D	8	3.2
	vitamin B12	36	14.5
	I do not know	42	16.9
6. Which of the nuts representatives is considered a good source of dietary selenium?	almond	31	12.4
	hazelnut	5	2.0
	<i>Brazilian nut</i>	75	30.1
	walnut	19	7.6
	cashew	40	16.1
	I do not know	79	31.7
7. Nuts are primarily a source of which polyunsaturated fatty acid?	EPA	35	14.1
	DHA	23	9.2
	<i>linoleic acid</i>	22	8.8
	alpha-linolenic acid	48	19.3
	arachidonic acid	15	6.0
	I do not know	106	42.6
8. Which of nuts has the highest content of saturated fatty acids and is therefore the least recommended in the diet compared to other stone fruits?	peanuts	126	50.6
	almond	14	5.6
	walnut	17	6.8
	hazelnut	3	1.2
	<i>cashew</i>	32	12.9
	I do not know	57	22.9
9. There is an approved health claim for walnuts that reads: "Walnuts contribute to improving the elasticity of blood vessels." The stated health statement refers to the daily intake of walnuts in which of the	10g	25	10.0
	15g	37	14.9
	30g	66	26.5

stated quantities?	50g	16	6.4
	100g	6	2.4
	more than 100g	0	.0
	I do not know	99	39.8
10. The usual thermal processing of nuts has an effect on their chemical composition and thus on their health effects, in which direction::	<i>lowers</i>	147	59.0
	increases	11	4.4
	do not change	34	13.7
	I do not know	57	22.9
11. Thermal processing of nuts impacts allergenicity, in which direction:	<i>lowers</i>	59	23.7
	increases	21	8.4
	<i>do not change</i>	83	33.3
	I do not know	86	34.5
12. According to its composition and health effects, peanuts can be counted as a nut, even though it belongs to the leguminous family:	<i>true</i>	129	51.8
	false	24	9.6
	I do not know	96	38.6
	13. By what characteristic does the chestnut significantly differ from other types of nuts?	low content of mineral substances	9
lower content of vitamin C		13	5.2
higher energy value		24	9.6
<i>higher carbohydrate content</i>		76	30.5
I do not know		127	51.0

Correct answers are indicated in italic.

Descriptive statistics of answers on students' knowledge of nuts

		Mean	SD	Median	Min	Max
All respondents (N=509)	Correct	3.90	2.455	4	0	11
	False	3.35	2.176	3	0	11
	Do not know	5.75	3.544	5	0	13
Passed Bromatology and/or Nutrition (N=249)	Correct	4.89	2.356	5	0	11
	False	4.04	2.031	4	0	11
	Do not know	4.06	2.852	4	0	13

Frequency of occurrence of a correct/false response per question

Count of answers	All respondents						Passed Bromatology and Nutrition					
	Correct		False		I do not know		Correct		False		I do not know	
0	47	9.2%	49	9.6%	25	4.9%	5	2.0%	5	2.0%	24	9.6%
1	42	8.3%	67	13.2%	32	6.3%	10	4.0%	23	9.2%	29	11.6%
2	69	13.6%	72	14.1%	41	8.1%	21	8.4%	27	10.8%	26	10.4%
3	70	13.8%	90	17.7%	63	12.4%	37	14.9%	45	18.1%	44	17.7%
4	89	17.5%	92	18.1%	49	9.6%	45	18.1%	60	24.1%	27	10.8%
5	66	13.0%	51	10.0%	58	11.4%	40	16.1%	28	11.2%	27	10.8%
6	48	9.4%	45	8.8%	41	8.1%	29	11.6%	32	12.9%	22	8.8%
7	37	7.3%	27	5.3%	42	8.3%	27	10.8%	18	7.2%	18	7.2%
8	22	4.3%	7	1.4%	40	7.9%	17	6.8%	5	2.0%	9	3.6%
9	8	1.6%	6	1.2%	30	5.9%	8	3.2%	4	1.6%	10	4.0%
10	7	1.4%	2	0.4%	29	5.7%	6	2.4%	1	0.4%	10	4.0%
11	4	0.8%	1	0.2%	15	2.9%	4	1.6%	1	0.4%	1	0.4%
12	0	0.0%	0	0.0%	18	3.5%	0	0.0%	0	0.0%	1	0.4%
13	0	0.0%	0	0.0%	26	5.1%	0	0.0%	0	0.0%	1	0.4%

Reasons why nuts are not consumed by respondents

	N = 509	%
Nut allergy	5	0.98
Inappropriate taste	24	4.72
I do not see the importance of nuts in the diet	3	0.59
High cost of nuts	88	17.29
Nuts are high in calories and contribute to weight gain	9	1.77
I believe that nuts increase blood cholesterol	3	0.59
I believe that nuts increase the risk of developing cardiovascular disease	3	0.59
I eat nuts	416	81.73

Reasons why nuts are consumed by respondents

	N = 509	%
Because of the health benefits it has	264	51.87
Because of the good nutritional composition	233	45.78
I love the taste of nuts	398	78.19
I don't consume nuts	24	4.72

Cross-comparison of reasons for consuming nuts with previously passed exams

	Bromatology (N = 509)			Nutrition (N = 508)		
	Passed (N = 242)	Not passed (N = 135)	No exam in curricula (N = 132)	Passed (N = 187)	Not passed (N = 181)	No exam in curricula (N = 140)
Because of the health benefits it has	134	72	58	99	87	77
Because of the good nutritional composition	115	65	53	95	74	64
I love the taste of nuts	192	103	103	149	135	114
I don't consume nuts	10	4	10	6	12	6

The type of nuts that is most common consumed in the diet.

	N = 509	%
Walnut	76	14.9
Hazelnut	80	15.7
Almond	154	30.3
Cashew	18	3.5
Brazilian nut	3	0.6
Pistachios	13	2.5
Peanuts	153	30.1
Tame chestnut	3	0.6
I don't consume nuts	9	1.8

Frequency of use of nuts in diet

	N = 509	%
More than 5 times a week	43	8.4
2-4 times a week	200	39.3
once a week	142	27.9
3 times a month	76	14.9
Less than once a month	41	8.1
I don't consume nuts	7	1.4

Usual portion size of nuts in the diet

	N = 509	%
10-30g	185	36.3
30-60g	183	36.0
60-90g	83	16.3
90-120g	39	7.7
120-150g	8	1.6
More than 150g	3	0.6
I do not consume nuts	8	1.6

The usual form of nuts consumption

	N = 509	%
Raw	269	52.9
Baked	205	40.3
Fried in oil	12	2.4
In the form of paste, butter	13	2.6
I do not consume nuts	9	1.8
Other: stayed in water for some time	1	0.2

Type of nuts procurement

	N = 509	%
Industrially packaged	101	19.8
In bulk goods stores ("bio shop"), by measure	326	64.0
On the market, by measure	62	12.2
I do not consume nuts	8	1.6
Other (independent cultivation, multiple answers)	12	2.4

The association of the need for additional information with attitudes regarding the health effects and nutritional value of nuts

1. Nuts represent a group of foods of exceptional nutritional value.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	1	8	42	114	215	33.947	<0.001*
	%	0.3	2.1	11.1	30.0	56.6		
No	N = 49	2	3	12	11	21		
	%	4.1	6.1	24.5	22.4	42.9		
I do not know	N = 80	0	3	21	25	31		
	%	0.0	3.8	26.3	31.3	38.8		
2. Regular consumption of nuts can have beneficial effects on health.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	0	5	36	112	227	51.763	<0.001*
	%	0.0	1.3	9.5	29.5	59.7		
No	N = 49	1	7	13	8	20		
	%	2.0	14.3	26.5	16.3	40.8		
I do not know	N = 80	0	4	13	24	39		

	%	0.0	5.0	16.3	30.0	48.8		
3. Consuming nuts contributes to the maintenance of normal lipid status.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 379	2	12	99	115	151	31.646	<0.001*
	%	.5	3.2	26.1	30.3	39.8		
No	N = 49	4	4	17	8	16		
	%	8.2	8.2	34.7	16.3	32.7		
I do not know	N = 80	0	5	25	22	28		
	%	0.0	6.3	31.3	27.5	35.0		
4. Regular and moderate consumption of nuts contributes to reducing the risk of developing cardiovascular diseases.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	1	15	84	128	152	18.493	0.018*
	%	.3	3.9	22.1	33.7	40.0		
No	N = 49	2	5	16	11	15		
	%	4.1	10.2	32.7	22.4	30.6		
I do not know	N = 80	1	2	19	30	28		
	%	1.3	2.5	23.8	37.5	35.0		
5. Regular and moderate consumption of nuts contributes to reducing the risk of developing diabetes.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	5	36	115	115	109	13.583	0.093
	%	1.3	9.5	30.3	30.3	28.7		
No	N = 49	4	7	15	11	12		
	%	8.2	14.3	30.6	22.4	24.5		
I do not know	N = 80	1	9	25	26	19		
	%	1.3	11.3	31.3	32.5	23.8		
6. Regular and moderate consumption of nuts contributes to reducing the risk of cancer.								

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	10	59	134	96	81	14.628	0.067
	%	2.6	15.5	35.3	25.3	21.3		
No	N = 49	5	13	17	5	9		
	%	10.2	26.5	34.7	10.2	18.4		
I do not know	N = 80	4	13	28	19	16		
	%	5.0	16.3	35.0	23.8	20.0		

7. Regular and moderate consumption of nuts contributes to an increase in total cholesterol.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	52	107	121	63	37	5.933	0.655
	%	13.7	28.2	31.8	16.6	9.7		
No	N = 49	8	13	20	5	3		
	%	16.3	26.5	40.8	10.2	6.1		
I do not know	N = 80	7	20	32	12	9		
	%	8.8	25.0	40.0	15.0	11.3		

8. Consuming nuts several times a week contributes to an increase in body weight.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	90	95	105	67	23	2.932	0.939
	%	23.7	25.0	27.6	17.6	6.1		
No	N = 49	11	10	15	9	4		
	%	22.4	20.4	30.6	18.4	8.2		
I do not know	N = 80	19	18	28	11	4		
	%	23.8	22.5	35.0	13.8	5.0		

9. Regular consumption of nuts contributes to the reduction of inflammation.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 379	15	53	182	83	46	11.686	0.166

	%	4.0	14.0	48.0	21.9	12.1		
No	N = 49	5	9	23	6	6		
	%	10.2	18.4	46.9	12.2	12.2		
I do not know	N = 80	4	17	42	12	5		
	%	5.0	21.3	52.5	15.0	6.3		
10. Regular consumption of nuts contributes to the maintenance of normal endothelial function.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 379	6	42	152	119	60	21.531	0.006*
	%	1.6	11.1	40.1	31.4	15.8		
No	N = 49	4	7	25	7	6		
	%	8.2	14.3	51.0	14.3	12.2		
I do not know	N = 80	2	3	42	25	8		
	%	2.5	3.8	52.5	31.3	10.0		
11. Regular consumption of nuts can have a beneficial effect on the oxidative status in the body.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 379	0	34	108	132	105	50.214	<0.001*
	%	0.0	9.0	28.5	34.8	27.7		
No	N = 49	4	6	20	12	7		
	%	8.2	12.2	40.8	24.5	14.3		
I do not know	N = 80	0	4	28	34	14		
	%	0.0	5.0	35.0	42.5	17.5		
12. It is important to know that nuts represent a source of protein in the diet.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	22	39	71	108	140	13.337	0.101
	%	5.8	10.3	18.7	28.4	36.8		
No	N = 49	5	11	10	7	16		
	%	10.2	22.4	20.4	14.3	32.7		

I do not know	N = 80	6	7	20	23	24		
	%	7.5	8.8	25.0	28.8	30.0		
13. Nuts should be consumed regularly because it is a good source of unsaturated (healthy) fats in the diet.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	1	13	57	102	207	28.905	<0.001*
	%	0.3	3.4	15.0	26.8	54.5		
No	N = 49	2	7	12	9	19		
	%	4.1	14.3	24.5	18.4	38.8		
I do not know	N = 80	0	5	16	22	37		
	%	0.0	6.3	20.0	27.5	46.3		
14. Nuts should be consumed regularly because it is a good source of essential fatty acids in the diet.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	4	12	84	105	175	26.023	0.001
	%	1.1	3.2	22.1	27.6	46.1		
No	N = 49	4	5	14	10	16		
	%	8.2	10.2	28.6	20.4	32.7		
I do not know	N = 80	1	6	21	26	26		
	%	1.3	7.5	26.3	32.5	32.5		
15. Nuts can contribute to the preservation and improvement of health as a significant source of antioxidants.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 379	4	18	69	131	157	32.191	<0.001*
	%	1.1	4.7	18.2	34.6	41.4		
No	N = 49	5	3	16	6	19		
	%	10.2	6.1	32.7	12.2	38.8		
I do not know	N = 80	2	4	22	28	24		
	%	2.5	5.0	27.5	35.0	30.0		
16. Almonds are a good nutritional source of iron in the diet.								

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	19	52	117	103	89	9.149	0.330
	%	5.0	13.7	30.8	27.1	23.4		
No	N = 49	5	7	17	10	10		
	%	10.2	14.3	34.7	20.4	20.4		
I do not know	N = 80	9	6	29	19	17		
	%	11.3	7.5	36.3	23.8	21.3		

17. Nuts should be recommended as a healthy snack in the diet.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	4	8	35	93	240	28.024	<0.001*
	%	1.1	2.1	9.2	24.5	63.2		
No	N = 49	2	5	11	11	20		
	%	4.1	10.2	22.4	22.4	40.8		
I do not know	N = 80	1	4	13	25	37		
	%	1.3	5.0	16.3	31.3	46.3		

18. The general population is not sufficiently informed about the health benefits of nuts.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	3	10	44	76	247	37.259	<0.001*
	%	0.8	2.6	11.6	20.0	65.0		
No	N = 49	4	5	11	6	23		
	%	8.2	10.2	22.4	12.2	46.9		
I do not know	N = 80	2	3	17	22	36		
	%	2.5	3.8	21.3	27.5	45.0		

19. One of the main barriers to the regular consumption of nuts is the high price.

Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	9	21	60	117	173	20.073	0.010*

	%	2.4	5.5	15.8	30.8	45.5		
No	N = 49	4	7	13	9	16		
	%	8.2	14.3	26.5	18.4	32.7		
I do not know	N = 80	0	6	14	24	36		
	%	0.0	7.5	17.5	30.0	45.0		
20. I rarely consume nuts for fear of gaining weight.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	220	58	52	30	20	8.128	0.421
	%	57.9	15.3	13.7	7.9	5.3		
No	N = 49	28	5	12	2	2		
	%	57.1	10.2	24.5	4.1	4.1		
I do not know	N = 80	45	8	17	7	3		
	%	56.3	10.0	21.3	8.8	3.8		
21. I would try to consume nuts more often if recommended by a doctor, nutritionist or other health professional.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	44	40	84	82	130	27.393	0.001*
	%	11.6	10.5	22.1	21.6	34.2		
No	N = 49	17	4	12	7	9		
	%	34.7	8.2	24.5	14.3	18.4		
I do not know	N = 80	9	12	25	14	20		
	%	11.3	15.0	31.3	17.5	25.0		
22. Nuts are one of the most common causes of allergic reactions to food.								
Need for additional information		1	2	3	4	5	Stat.	p-value
Yes	N = 380	20	41	87	121	111	11.425	0.179
	%	5.3	10.8	22.9	31.8	29.2		
No	N = 49	6	8	14	13	8		

	%	12.2	16.3	28.6	26.5	16.3		
I do not know	N = 80	8	7	16	22	27		
	%	10.0	8.8	20.0	27.5	33.8		

The association between the need for additional information and students' knowledge about nuts

Question	Answer	Yes (N=380)		No (N=49)		I don't know (N=80)		Test	
		N	%	N	%	N	%	Stat.	p
1. In the dietary recommendations (nutrition pyramid), nuts are classified together with the group of foods:	Cereals	105	27.6	13	26.5	23	28.8	19.406	0.079
	milk and milk products	12	3.2	2	4.1	0	0.0		
	Fruits	88	23.2	5	10.2	14	17.5		
	Vegetables	3	0.8	0	0.0	1	1.3		
	<i>meat and eggs</i>	55	14.5	8	16.3	4	5.0		
	Oils	26	6.8	6	12.2	10	12.5		
	I do not know	91	23.9	15	30.6	28	35.0		
2. Nuts are an important food group in the Mediterranean diet:	<i>Yes</i>	238	62.6	25	51.0	37	46.3	10.638	0.031
	No	27	7.1	3	6.1	5	6.3		
	I do not know	115	30.3	21	42.9	38	47.5		
3. Nuts are an important food group in the DASH diet:	<i>Yes</i>	119	31.3	11	22.4	20	25.0	3.661	0.454
	No	13	3.4	3	6.1	2	2.5		
	I do not know	248	65.3	35	71.4	58	72.5		
4. Nuts are definitely not a source of which mineral in the diet?	Selenium	7	1.8	2	4.1	1	1.3	13.059	0.220
	<i>Iodine</i>	144	37.9	13	26.5	24	30.0		
	Magnesium	21	5.5	1	2.0	9	11.3		
	Iron	22	5.8	2	4.1	7	8.8		
	Zinc	23	6.1	2	4.1	5	6.3		

	I do not know	163	42.9	29	59.2	34	42.5		
5. Nuts are a rich source of which vitamin in the diet?	vitamin A	18	4.7	3	6.1	3	3.8	11.678	0.307
	vitamin C	7	1.8	3	6.1	4	5.0		
	<i>vitamin E</i>	159	41.8	15	30.6	26	32.5		
	vitamin D	12	3.2	2	4.1	5	6.3		
	vitamin B12	68	17.9	6	12.2	14	17.5		
	I do not know	116	30.5	20	40.8	28	35.0		
6. Which of the nuts representatives is considered a good source of dietary selenium?	Almond	37	9.7	3	6.1	12	15.0	9.231	0.510
	Hazelnut	4	1.1	1	2.0	3	3.8		
	<i>Brazilian nut</i>	97	25.5	11	22.4	13	16.3		
	Walnut	21	5.5	2	4.1	3	3.8		
	Cashew	51	13.4	7	14.3	11	13.8		
	I do not know	170	44.7	25	51.0	38	47.5		
7. Nuts are primarily a source of which polyunsaturated fatty acid?	EPA	25	6.6	5	10.2	9	11.3	7.573	0.670
	DHA	24	6.3	2	4.1	2	2.5		
	<i>linoleic acid</i>	34	8.9	3	6.1	5	6.3		
	alpha-linolenic acid	48	12.6	7	14.3	8	10.0		
	arachidonic acid	29	7.6	2	4.1	4	5.0		
	I do not know	220	57.9	30	61.2	52	65.0		
8. Which of nuts has the highest content of saturated fatty acids and is therefore the least recommended in the diet compared to other stone fruits?	Peanuts	172	45.3	15	30.6	32	40.0	14.762	0.141
	Almond	20	5.3	2	4.1	8	10.0		
	Walnut	14	3.7	4	8.2	5	6.3		
	Hazelnut	7	1.8	0	0.0	1	1.3		
	<i>Cashew</i>	43	11.3	3	6.1	10	12.5		
	I do not know	124	32.6	25	51.0	24	30.0		
9. There is an approved health claim for walnuts that reads: "Walnuts contribute to improving the elasticity of blood vessels." The stated	10g	33	8.7	4	8.2	5	6.3	4.160	0.980
	15g	58	15.3	7	14.3	11	13.8		
	30g	85	22.4	11	22.4	16	20.0		
	50g	30	7.9	3	6.1	4	5.0		
	100g	7	1.8	2	4.1	2	2.5		

health statement refers to the daily intake of walnuts in which of the stated quantities?	more than 100g	1	0.3	0	0.0	0	0.0		
	I do not know	166	43.7	22	44.9	42	52.5		
10. The usual thermal processing of nuts has an effect on their chemical composition and thus on their health effects, in which direction: :	<i>Lowers</i>	209	55.0	17	34.7	35	43.8	11.891	0.064
	increases	13	3.4	4	8.2	2	2.5		
	do not change	46	12.1	7	14.3	11	13.8		
	I do not know	112	29.5	21	42.9	32	40.0		
11. Thermal processing of nuts impacts allergenicity, in which direction:	Lowers	69	18.2	9	18.4	18	22.5	2.560	0.862
	increases	31	8.2	3	6.1	5	6.3		
	<i>do not change</i>	109	28.7	11	22.4	23	28.8		
	I do not know	171	45.0	26	53.1	34	42.5		
12. According to its composition and health effects, peanuts can be counted as a nut, even though it belongs to the leguminous family:	<i>True</i>	180	47.4	16	32.7	35	43.8	6.422	0.170
	False	25	6.6	7	14.3	8	10.0		
	I do not know	175	46.1	26	53.1	37	46.3		
13. By what characteristic does the chestnut significantly differ from other types of nuts?	low content of mineral substances	13	3.4	1	2.0	2	2.5	4.198	0.839
	lower content of vitamin C	11	2.9	3	6.1	4	5.0		
	higher energy value	26	6.8	4	8.2	7	8.8		
	<i>higher carbohydrate content</i>	96	25.3	9	18.4	16	20.0		
	I do not know	234	61.6	32	65.3	51	63.8		

Correct answers are indicated in italic.

The influence of passing the nutrition-related exam (Bromatology) on attitudes regarding the health effects and nutritional importance of nuts

1. Nuts represent a group of foods of exceptional nutritional value.								
		1	2	3	4	5	Stat.	p-value
Passed	N = 242	1	5	34	69	133	8.330 ^f	0.366
	%	.4	2.1	14.0	28.5	55.0		
Not passed	N = 136	1	5	16	49	65		
	%	.7	3.7	11.8	36.0	47.8		
No exam in curricula	N = 131	1	4	25	32	69		
	%	.8	3.1	19.1	24.4	52.7		
2. Regular consumption of nuts can have beneficial effects on health.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	0	4	18	68	152	22.914 ^f	0.001*
	%	0.0	1.7	7.4	28.1	62.8		
Not passed	N =136	0	4	19	37	76		
	%	0.0	2.9	14.0	27.2	55.9		
No exam in curricula	N =131	1	8	25	39	58		
	%	.8	6.1	19.1	29.8	44.3		
3. Consuming nuts contributes to the maintenance of normal lipid status.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	1	6	54	78	103	20.182	0.010*
	%	.4	2.5	22.3	32.2	42.6		
Not passed	N =135	3	7	36	38	51		
	%	2.2	5.2	26.7	28.1	37.8		
No exam in curricula	N =131	2	8	51	29	41		
	%	1.5	6.1	38.9	22.1	31.3		
4. Regular and moderate consumption of nuts contributes to reducing the risk of developing cardiovascular diseases.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	0	9	48	85	100	18.965	0.015*
	%	0.0	3.7	19.8	35.1	41.3		
Not passed	N =136	0	5	34	42	55		

	%	0.0	3.7	25.0	30.9	40.4		
No exam in curricula	N =131	4	8	37	42	40		
	%	3.1	6.1	28.2	32.1	30.5		
5. Regular and moderate consumption of nuts contributes to reducing the risk of developing diabetes.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	3	24	67	78	70	8.368	0.398
	%	1.2	9.9	27.7	32.2	28.9		
Not passed	N =136	3	13	38	42	40		
	%	2.2	9.6	27.9	30.9	29.4		
No exam in curricula	N =131	4	15	50	32	30		
	%	3.1	11.5	38.2	24.4	22.9		
6. Regular and moderate consumption of nuts contributes to reducing the risk of cancer.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	9	43	83	59	48	10.485	0.233
	%	3.7	17.8	34.3	24.4	19.8		
Not passed	N =136	3	16	47	32	38		
	%	2.2	11.8	34.6	23.5	27.9		
No exam in curricula	N =131	7	26	49	29	20		
	%	5.3	19.8	37.4	22.1	15.3		
7. Regular and moderate consumption of nuts contributes to an increase in total cholesterol.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	35	72	73	39	23	4.729	0.786
	%	14.5	29.8	30.2	16.1	9.5		
Not passed	N =136	14	33	54	21	14		
	%	10.3	24.3	39.7	15.4	10.3		
No exam in curricula	N =131	18	35	46	20	12		
	%	13.7	26.7	35.1	15.3	9.2		
8. Consuming nuts several times a week contributes to an increase in body weight.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	64	56	72	40	10	7.033	0.533

	%	26.4	23.1	29.8	16.5	4.1		
Not passed	N =136	25	38	40	22	11		
	%	18.4	27.9	29.4	16.2	8.1		
No exam in curricula	N =131	31	29	36	25	10		
	%	23.7	22.1	27.5	19.1	7.6		
9. Regular consumption of nuts contributes to the reduction of inflammation.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	8	36	110	56	32	10.664	0.221
	%	3.3	14.9	45.5	23.1	13.2		
Not passed	N =135	8	23	63	28	13		
	%	5.9	17.0	46.7	20.7	9.6		
No exam in curricula	N =131	8	20	74	17	12		
	%	6.1	15.3	56.5	13.0	9.2		
10. Regular consumption of nuts contributes to the maintenance of normal endothelial function.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	4	21	94	81	42	18.935	0.015*
	%	1.7	8.7	38.8	33.5	17.4		
Not passed	N =135	4	13	55	47	16		
	%	3.0	9.6	40.7	34.8	11.9		
No exam in curricula	N =131	4	18	70	23	16		
	%	3.1	13.7	53.4	17.6	12.2		
11. Regular consumption of nuts can have a beneficial effect on the oxidative status in the body.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	0	18	65	86	73	24.498 ^f	0.002*
	%	0.0	7.4	26.9	35.5	30.2		
Not passed	N =135	1	9	39	57	29		
	%	.7	6.7	28.9	42.2	21.5		
No exam in curricula	N =131	3	17	52	35	24		
	%	2.3	13.0	39.7	26.7	18.3		
12. It is important to know that nuts represent a source of protein in the diet.								

		1	2	3	4	5	Stat.	p-value
Passed	N =242	14	27	48	63	90	6.611	0.579
	%	5.8	11.2	19.8	26.0	37.2		
Not passed	N =136	8	16	23	46	43		
	%	5.9	11.8	16.9	33.8	31.6		
No exam in curricula	N =131	11	14	30	29	47		
	%	8.4	10.7	22.9	22.1	35.9		
13. Nuts should be consumed regularly because it is a good source of unsaturated (healthy) fats in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	0	10	36	57	139	10.205	0.251
	%	0.0	4.1	14.9	23.6	57.4		
Not passed	N =136	1	8	22	41	64		
	%	.7	5.9	16.2	30.1	47.1		
No exam in curricula	N =131	2	7	27	35	60		
	%	1.5	5.3	20.6	26.7	45.8		
14. Nuts should be consumed regularly because it is a good source of essential fatty acids in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	1	11	44	69	117	19.354	0.013*
	%	.4	4.5	18.2	28.5	48.3		
Not passed	N =136	4	5	31	38	58		
	%	2.9	3.7	22.8	27.9	42.6		
No exam in curricula	N =131	4	7	44	34	42		
	%	3.1	5.3	33.6	26.0	32.1		
15. Nuts can contribute to the preservation and improvement of health as a significant source of antioxidants.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	3	11	40	85	103	20.169	0.010*
	%	1.2	4.5	16.5	35.1	42.6		
Not passed	N =135	2	7	25	47	54		
	%	1.5	5.2	18.5	34.8	40.0		
No exam in	N =131	6	7	42	33	43		

curricula	%	4.6	5.3	32.1	25.2	32.8		
16. Almonds are a good nutritional source of iron in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	15	37	83	55	52	9.537	0.299
	%	6.2	15.3	34.3	22.7	21.5		
Not passed	N =136	8	17	34	41	36		
	%	5.9	12.5	25.0	30.1	26.5		
No exam in curricula	N =131	10	11	46	36	28		
	%	7.6	8.4	35.1	27.5	21.4		
17. Nuts should be recommended as a healthy snack in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	2	5	26	59	150	10.391 ^f	0.219
	%	.8	2.1	10.7	24.4	62.0		
Not passed	N =136	1	5	13	40	77		
	%	.7	3.7	9.6	29.4	56.6		
No exam in curricula	N = 131	4	7	20	30	70		
	%	3.1	5.3	15.3	22.9	53.4		
18. The general population is not sufficiently informed about the health benefits of nuts.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	3	7	32	53	147	10.401 ^f	0.223
	%	1.2	2.9	13.2	21.9	60.7		
Not passed	N =136	1	6	14	28	87		
	%	.7	4.4	10.3	20.6	64.0		
No exam in curricula	N = 131	5	5	26	23	72		
	%	3.8	3.8	19.8	17.6	55.0		
19. One of the main barriers to the regular consumption of nuts is the high price.								
		1	2	3	4	5	Stat.	p-value
Passed	N =242	3	13	48	71	107	15.541	0.049
	%	1.2	5.4	19.8	29.3	44.2		
Not passed	N =136	5	10	11	46	64		

	%	3.7	7.4	8.1	33.8	47.1		
No exam in curricula	N =131	5	11	28	33	54		
	%	3.8	8.4	21.4	25.2	41.2		
20. I rarely consume nuts for fear of gaining weight.								
		1	2	3	4	5	Stat.	p-value
Passed	N = 242	153	34	29	17	9	12.755	0.121
	%	63.2	14.0	12.0	7.0	3.7		
Not passed	N = 136	71	24	24	10	7		
	%	52.2	17.6	17.6	7.4	5.1		
No exam in curricula	N = 131	69	13	28	12	9		
	%	52.7	9.9	21.4	9.2	6.9		
21. I would try to consume nuts more often if recommended by a doctor, nutritionist or other health professional.								
		1	2	3	4	5	Stat.	p-value
Passed	N = 242	32	29	56	52	73	6.275	0.616
	%	13.2	12.0	23.1	21.5	30.2		
Not passed	N = 136	16	12	30	32	46		
	%	11.8	8.8	22.1	23.5	33.8		
No exam in curricula	N = 131	22	15	35	19	40		
	%	16.8	11.5	26.7	14.5	30.5		
22. Nuts are one of the most common causes of allergic reactions to food.								
		1	2	3	4	5	Stat.	p-value
Passed	N = 242	7	20	47	73	95	42.558	<0.001*
	%	2.9	8.3	19.4	30.2	39.3		
Not passed	N = 136	10	17	31	50	28		
	%	7.4	12.5	22.8	36.8	20.6		
No exam in curricula	N = 131	17	19	39	33	23		
	%	13.0	14.5	29.8	25.2	17.6		

The influence of passing the nutrition-related exam (Bromatology) on the knowledge about nuts

Question	Answer	Passed Bromatology (N=242)		Not passed Bromatology (N=136)		No exam in curricula (N=131)		Test	
		Correct answer (N)	Correct answer (N)	Correct answer (N)	Correct answer (N)	N	%	Stat.	p
1. In the dietary recommendations (nutrition pyramid), nuts are classified together with the group of foods:	Cereals	74	30.6	36	26.5	31	23.7	60.982	<0.001*
	milk and milk products	7	2.9	5	3.7	2	1.5		
	Fruits	70	28.9	20	14.7	17	13.0		
	Vegetables	4	1.7	0	0.0	0	0.0		
	<i>meat and eggs</i>	36	14.9	18	13.2	13	9.9		
	Oils	22	9.1	8	5.9	12	9.2		
	I do not know	29	12.0	49	36.0	56	42.7		
2. Nuts are an important food group in the Mediterranean diet:	<i>Yes</i>	175	72.3	74	54.4	51	38.9	55.695	<0.001*
	No	20	8.3	10	7.4	5	3.8		
	I do not know	47	19.4	52	38.2	75	57.3		
3. Nuts are an important food group in the DASH diet:	<i>Yes</i>	123	50.8	13	9.6	14	10.7	135.042	<0.001*
	No	17	7.0	1	0.7	0	0.0		
	I do not know	102	42.1	121	89.7	117	89.3		
4. Nuts are definitely not a source of which mineral in the diet?	Selenium	8	3.3	2	1.5	0	0.0	36.713	<0.001*
	<i>Iodine</i>	101	41.7	53	39.0	27	20.6		
	Magnesium	20	8.3	5	3.7	6	4.6		
	Iron	16	6.6	6	4.4	9	6.9		
	Zinc	15	6.2	8	5.9	7	5.3		
	I do not know	82	33.9	62	45.6	82	62.2		
5. Nuts are a rich source of which vitamin in the diet?	vitamin A	12	5.0	5	3.7	7	5.3	75.897	<0.001*
	vitamin C	8	3.3	2	1.5	4	3.1		
	<i>vitamin E</i>	138	57.0	35	25.7	27	20.6		
	vitamin D	7	2.9	8	5.9	4	3.1		
	vitamin B12	35	14.5	28	20.6	25	19.1		
	I do not know	42	17.4	58	42.6	64	48.9		
6. Which of the nuts representatives is considered a good source of dietary selenium?	Almond	31	12.8	11	8.1	10	7.6	38.577	<0.001*
	Hazelnut	5	2.1	2	1.5	1	0.8		
	<i>Brazilian nut</i>	71	29.3	29	21.3	21	16.0		
	Walnut	18	7.4	6	4.4	2	1.5		

	Cashew	39	16.1	13	9.6	17	13.0		
	I do not know	78	32.2	75	55.1	80	61.1		
7. Nuts are primarily a source of which polyunsaturated fatty acid?	EPA	34	14.0	4	2.9	1	0.8	98.091	<0.001*
	DHA	22	9.1	2	1.5	4	3.1		
	<i>linoleic acid</i>	21	8.7	16	11.8	5	3.8		
	alpha-linolenic acid	48	19.8	9	6.6	6	4.6		
	arachidonic acid	14	5.8	17	12.5	4	3.1		
	I do not know	103	42.6	88	64.7	111	84.7		
8. Which of nuts has the highest content of saturated fatty acids and is therefore the least recommended in the diet compared to other stone fruits?	Peanuts	123	50.8	48	35.3	48	36.6	29.515	0.001*
	Almond	14	5.8	9	6.6	7	5.3		
	Walnut	16	6.6	5	3.7	2	1.5		
	Hazelnut	3	1.2	2	1.5	3	2.3		
	<i>Cashew</i>	30	12.4	12	8.8	14	10.7		
	I do not know	56	23.1	60	44.1	57	43.5		
9. There is an approved health claim for walnuts that reads: "Walnuts contribute to improving the elasticity of blood vessels." The stated health statement refers to the daily intake of walnuts in which of the stated quantities?	10g	25	10.3	10	7.4	7	5.3	20.212	0.063
	15g	37	15.3	27	19.9	12	9.2		
	30g	63	26.0	23	16.9	26	19.8		
	50g	14	5.8	10	7.4	13	9.9		
	100g	6	2.5	3	2.2	2	1.5		
	more than 100g	0	0.0	0	0.0	1	0.8		
	I do not know	97	40.1	63	46.3	70	53.4		
10. The usual thermal processing of nuts has an effect on their chemical composition and thus on their health effects, in which direction: :	<i>Lowers</i>	145	59.9	65	47.8	51	38.9	24.438	<0.001*
	increases	10	4.1	5	3.7	4	3.1		
	do not change	33	13.6	15	11.0	16	12.2		
	I do not know	54	22.3	51	37.5	60	45.8		
11. Thermal processing of nuts impacts allergenicity, in which direction:	Lowers	59	24.4	25	18.4	12	9.2	31.073	<0.001*
	increases	19	7.9	11	8.1	9	6.9		
	<i>do not change</i>	81	33.5	34	25.0	28	21.4		
	I do not know	83	34.3	66	48.5	82	62.6		
12. According to its	<i>True</i>	128	52.9	64	47.1	39	29.8	22.830	<0.001*

composition and health effects, peanuts can be counted as a nut, even though it belongs to the leguminous family:	False	19	7.9	13	9.6	8	6.1		
	I do not know	95	39.3	59	43.3	84	64.1		
13. By what characteristic does the chestnut significantly differ from other types of nuts?	low content of mineral substances	8	3.3	3	2.2	5	3.8	22.498	0.004*
	lower content of vitamin C	10	4.1	4	2.9	4	3.1		
	higher energy value	23	9.5	6	4.4	8	6.1		
	<i>higher carbohydrate content</i>	75	31.0	25	18.4	21	16.0		
	I do not know	126	52.1	98	72.1	93	71.0		

Correct answers are indicated in italic.

The influence of passing the nutrition-related exam (Nutrition) on attitudes regarding the health effects and nutritional importance of nuts

1. Nuts represent a group of foods of exceptional nutritional value.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	1	4	28	50	104	7.147 ^f	0.500
	%	.5	2.1	15.0	26.7	55.6		
Not passed	N = 181	1	5	21	63	91		
	%	.6	2.8	11.6	34.8	50.3		
Not in curricula	N = 140	1	5	26	36	72		
	%	.7	3.6	18.6	25.7	51.4		
2. Regular consumption of nuts can have beneficial effects on health.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	0	6	14	52	115	19.412 ^f	0.006*
	%	0.0	3.2	7.5	27.8	61.5		
Not passed	N = 181	0	2	22	51	106		
	%	0.0	1.1	12.2	28.2	58.6		
Not in curricula	N = 140	1	8	26	41	64		
	%	.7	5.7	18.6	29.3	45.7		
3. Consuming nuts contributes to the maintenance of normal lipid status.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	3	3	44	58	79	18.406	0.018*
	%	1.6	1.6	23.5	31.0	42.2		
Not passed	N = 180	1	10	43	55	71		
	%	.6	5.6	23.9	30.6	39.4		
Not in curricula	N = 140	2	8	54	32	44		
	%	1.4	5.7	38.6	22.9	31.4		
4. Regular and moderate consumption of nuts contributes to reducing the risk of developing cardiovascular diseases.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	0	8	36	67	76	18.187	0.020*
	%	0.0	4.3	19.3	35.8	40.6		
Not passed	N = 181	0	5	46	56	74		

	%	0.0	2.8	25.4	30.9	40.9		
Not in curricula	N = 140	4	9	37	46	44		
	%	2.9	6.4	26.4	32.9	31.4		
5. Regular and moderate consumption of nuts contributes to reducing the risk of developing diabetes.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	3	17	48	66	53	9.374	0.312
	%	1.6	9.1	25.7	35.3	28.3		
Not passed	N = 181	3	18	55	53	52		
	%	1.7	9.9	30.4	29.3	28.7		
Not in curricula	N = 140	4	17	52	33	34		
	%	2.9	12.1	37.1	23.6	24.3		
6. Regular and moderate consumption of nuts contributes to reducing the risk of cancer.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	7	30	67	50	33	7.488	0.485
	%	3.7	16.0	35.8	26.7	17.6		
Not passed	N = 181	6	25	63	41	46		
	%	3.3	13.8	34.8	22.7	25.4		
Not in curricula	N = 140	6	30	49	29	26		
	%	4.3	21.4	35.0	20.7	18.6		
7. Regular and moderate consumption of nuts contributes to an increase in total cholesterol.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	28	50	56	34	19	4.345	0.825
	%	15.0	26.7	29.9	18.2	10.2		
Not passed	N = 181	22	53	67	24	15		
	%	12.2	29.3	37.0	13.3	8.3		
Not in curricula	N = 140	17	37	50	22	14		
	%	12.1	26.4	35.7	15.7	10.0		
8. Consuming nuts several times a week contributes to an increase in body weight.								
		1	2	3	4	5	Stat.	p-value
Passed	N = 187	48	41	55	34	9	5.336	0.721

Nutrition	%	25.7	21.9	29.4	18.2	4.8		
Not passed	N = 181	39	51	54	26	11		
	%	21.5	28.2	29.8	14.4	6.1		
Not in curricula	N = 140	33	30	39	27	11		
	%	23.6	21.4	27.9	19.3	7.9		
9. Regular consumption of nuts contributes to the reduction of inflammation.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	2	26	86	46	27	19.527	0.012*
	%	1.1	13.9	46.0	24.6	14.4		
Not passed	N = 180	11	32	86	36	15		
	%	6.1	17.8	47.8	20.0	8.3		
Not in curricula	N = 140	11	21	75	18	15		
	%	7.9	15.0	53.6	12.9	10.7		
10. Regular consumption of nuts contributes to the maintenance of normal endothelial function.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	4	19	65	66	33	21.721	0.005*
	%	2.1	10.2	34.8	35.3	17.6		
Not passed	N = 180	4	16	78	61	21		
	%	2.2	8.9	43.3	33.9	11.7		
Not in curricula	N = 140	4	17	76	23	20		
	%	2.9	12.1	54.3	16.4	14.3		
11. Regular consumption of nuts can have a beneficial effect on the oxidative status in the body.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	1	12	56	67	51	14.363	0.073
	%	.5	6.4	29.9	35.8	27.3		
Not passed	N = 180	1	14	47	73	45		
	%	.6	7.8	26.1	40.6	25.0		
Not in curricula	N = 140	2	18	53	37	30		
	%	1.4	12.9	37.9	26.4	21.4		
12. It is important to know that nuts represent a source of protein in the diet.								

		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	12	19	42	51	63	7.067	0.529
	%	6.4	10.2	22.5	27.3	33.7		
Not passed	N = 181	9	24	28	54	66		
	%	5.0	13.3	15.5	29.8	36.5		
Not in curricula	N = 140	12	14	31	32	51		
	%	8.6	10.0	22.1	22.9	36.4		
13. Nuts should be consumed regularly because it is a good source of unsaturated (healthy) fats in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	0	9	29	47	102	4.496	0.810
	%	0.0	4.8	15.5	25.1	54.5		
Not passed	N = 181	1	8	30	48	94		
	%	.6	4.4	16.6	26.5	51.9		
Not in curricula	N = 140	2	8	26	38	66		
	%	1.4	5.7	18.6	27.1	47.1		
14. Nuts should be consumed regularly because it is a good source of essential fatty acids in the diet								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	2	6	35	57	87	14.084	0.080
	%	1.1	3.2	18.7	30.5	46.5		
Not passed	N = 181	4	9	38	48	82		
	%	2.2	5.0	21.0	26.5	45.3		
Not in curricula	N = 140	3	8	46	36	47		
	%	2.1	5.7	32.9	25.7	33.6		
15. Nuts can contribute to the preservation and improvement of health as a significant source of antioxidants.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	4	7	32	68	76	16.059	0.042*
	%	2.1	3.7	17.1	36.4	40.6		
Not passed	N = 180	1	10	34	60	75		
	%	.6	5.6	18.9	33.3	41.7		
Not in curricula	N = 140	6	8	41	36	49		

	%	4.3	5.7	29.3	25.7	35.0		
16. Almonds are a good nutritional source of iron in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	13	27	63	42	42	3.934	0.863
	%	7.0	14.4	33.7	22.5	22.5		
Not passed	N = 181	10	23	52	53	43		
	%	5.5	12.7	28.7	29.3	23.8		
Not in curricula	N = 140	10	15	47	37	31		
	%	7.1	10.7	33.6	26.4	22.1		
17. Nuts should be recommended as a healthy snack in the diet.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	2	5	20	47	113	8.503 ^f	0.375
	%	1.1	2.7	10.7	25.1	60.4		
Not passed	N = 181	1	5	17	49	109		
	%	.6	2.8	9.4	27.1	60.2		
Not in curricula	N = 140	4	7	22	33	74		
	%	2.9	5.0	15.7	23.6	52.9		
18. The general population is not sufficiently informed about the health benefits of nuts.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	4	6	25	39	113	8.343 ^f	0.394
	%	2.1	3.2	13.4	20.9	60.4		
Not passed	N = 181	1	8	21	42	109		
	%	.6	4.4	11.6	23.2	60.2		
Not in curricula	N = 140	4	4	26	22	84		
	%	2.9	2.9	18.6	15.7	60.0		
19. One of the main barriers to the regular consumption of nuts is the high price.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	3	10	35	56	83	9.058	0.337
	%	1.6	5.3	18.7	29.9	44.4		
Not passed	N = 181	6	11	23	60	81		

	%	3.3	6.1	12.7	33.1	44.8		
Not in curricula	N = 140	4	13	29	33	61		
	%	2.9	9.3	20.7	23.6	43.6		
20. I rarely consume nuts for fear of gaining weight.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	113	26	27	15	6	11.288	0.186
	%	60.4	13.9	14.4	8.0	3.2		
Not passed	N = 181	106	31	25	10	9		
	%	58.6	17.1	13.8	5.5	5.0		
Not in curricula	N = 140	73	14	29	14	10		
	%	52.1	10.0	20.7	10.0	7.1		
21. I would try to consume nuts more often if recommended by a doctor, nutritionist or other health professional.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	26	22	46	40	53	4.638	0.795
	%	13.9	11.8	24.6	21.4	28.3		
Not passed	N = 181	23	16	40	41	61		
	%	12.7	8.8	22.1	22.7	33.7		
Not in curricula	N = 140	21	17	35	22	45		
	%	15.0	12.1	25.0	15.7	32.1		
22. Nuts are one of the most common causes of allergic reactions to food.								
		1	2	3	4	5	Stat.	p-value
Passed Nutrition	N = 187	10	19	33	56	69	25.139	0.001*
	%	5.3	10.2	17.6	29.9	36.9		
Not passed	N = 181	9	17	40	67	48		
	%	5.0	9.4	22.1	37.0	26.5		
Not in curricula	N = 140	15	20	43	33	29		
	%	10.7	14.3	30.7	23.6	20.7		

The influence of passing the Nutrition-related exam (Nutrition) on knowledge about nuts

Question	Answer	Passed (N=187)		Not passed (N=181)		No exam in curricula (N=140)		Test	
		N	%	N	%	N	%	Stat.	p
1. In the dietary recommendations (nutrition pyramid), nuts are classified together with the group of foods:	Cereals	59	31.6	47	26.0	35	25.0	47.260	<0.001*
	milk and milk products	9	4.8	3	1.7	2	1.4		
	Fruits	51	27.3	36	19.9	20	14.3		
	Vegetables	2	1.1	2	1.1	0	0.0		
	meat and eggs	26	13.9	29	16.0	12	8.6		
	Oils	18	9.6	11	6.1	13	9.3		
	I do not know	22	11.8	53	29.3	58	41.4		
2. Nuts are an important food group in the Mediterranean diet:	Yes	135	72.2	106	58.6	58	41.4	53.314	<0.001*
	No	20	10.7	10	5.5	5	3.6		
	I do not know	32	17.1	65	35.9	77	55.0		
3. Nuts are an important food group in the DASH diet:	Yes	110	58.8	23	12.7	17	12.1	172.271	<0.001*
	No	18	9.6	0	0.0	0	0.0		
	I do not know	59	31.6	158	87.3	123	87.9		
4. Nuts definitely are not a source of which mineral in the diet?	Selenium	5	2.7	4	2.2	1	0.7	38.506	<0.001*
	Iodine	78	41.7	74	40.9	28	20.0		
	Magnesium	19	10.2	6	3.3	6	4.3		
	Iron	11	5.9	9	5.0	11	7.9		
	Zinc	12	6.4	10	5.5	8	5.7		
	I do not know	62	33.2	78	43.1	86	61.4		
5. Nuts are a rich source of which vitamin in the diet?	vitamin A	10	5.3	8	4.4	6	4.3	60.534	<0.001*
	vitamin C	7	13.4	3	1.7	4	2.9		
	vitamin E	107	57.2	63	34.8	30	21.4		
	vitamin D	7	13.4	8	4.4	4	2.9		
	vitamin B12	25	13.4	36	19.9	26	18.6		
	I do not know	31	16.6	63	34.8	70	50.0		
6. Which of the nuts	Almond	23	12.3	18	9.9	11	7.9	27.946	<0.001*

representatives is considered a good source of dietary selenium?	Hazelnut	3	1.6	4	2.2	1	0.7		
	Brazilian nut	54	28.9	44	24.3	23	16.4		
	Walnut	13	7.0	11	6.1	2	1.4		
	Cashew	31	16.6	19	10.5	19	13.6		
	I do not know	63	33.7	85	47.0	84	60.0		
7. Nuts are primarily a source of which polyunsaturated fatty acid?	EPA	31	16.6	6	3.3	2	1.4	99.804	<0.001*
	DHA	18	9.6	5	2.8	5	3.6		
	linoleic acid	18	9.6	19	10.5	5	3.6		
	alpha-linolenic acid	38	20.3	20	11.0	5	3.6		
	arachidonic acid	10	5.3	20	11.0	5	3.6		
	I do not know	72	38.5	111	61.3	118	84.3		
8. Which of nuts has the highest content of saturated fatty acids and is therefore the least recommended in the diet compared to other stone fruits?	Peanuts	98	52.4	73	40.3	48	34.3	31.079	0.001*
	Almond	9	4.8	12	6.6	9	6.4		
	Walnut	13	7.0	7	3.9	3	2.1		
	Hazelnut	2	1.1	3	1.7	3	2.1		
	Cashew	26	13.9	13	7.2	17	12.1		
	I do not know	39	20.9	73	40.3	60	42.9		
9. There is an approved health claim for walnuts that reads: "Walnuts contribute to improving the elasticity of blood vessels." The stated health statement refers to the daily intake of walnuts in which of the stated quantities?	10g	17	9.1	17	9.4	8	5.7	20.221	0.063
	15g	27	14.4	37	20.4	12	8.6		
	30g	50	26.7	34	18.8	28	20.0		
	50g	11	5.9	13	7.2	13	9.3		
	100g	4	2.1	5	2.8	2	1.4		
	more than 100g	0	0.0	0	0.0	1	0.7		
	I do not know	78	41.7	75	41.4	76	54.3		
10. Thermal processing of nuts impacts health effect, in which direction:	Lowers	115	61.5	94	51.9	52	37.1	25.917	<0.001*
	Poincreases	9	4.8	6	3.3	4	2.9		
	do not change	23	12.3	22	12.2	19	13.6		
	I do not know	40	21.4	59	32.6	65	46.4		
11. Thermal processing of nuts impacts allergenicity,	Lowers	52	27.8	31	17.1	13	9.3	32.174	<0.001*
	Poincreases	15	8.0	14	7.7	10	7.1		

in which direction:	do not change	60	32.1	51	28.2	32	22.9		
	I do not know	60	32.1	85	47.0	85	60.7		
12. According to its composition and health effects, peanuts can be counted as a nut, even though it belongs to the leguminous family:	True	99	52.9	89	49.2	43	30.7	29.766	<0.001*
	False	21	11.2	13	7.2	6	4.3		
	I do not know	67	35.8	79	43.6	91	65.0		
13. By what characteristic does the chestnut significantly differ from other types of nuts?	low content of mineral substances	7	3.7	4	2.2	5	3.6	21.723	0.005*
	lower content of vitamin C	9	4.8	4	2.2	5	3.6		
	higher energy value	19	10.2	10	5.5	8	5.7		
	higher carbohydrate content	58	31.0	42	23.2	21	15.0		
	I do not know	94	50.3	121	66.9	101	72.1		

