

APUNTES DE ESTADÍSTICA

PROGRAMA
Entidades/VARIABLES/Poblaciones/Muestras
Matriz de datos
Media
Mediana
Primer cuartil (Q1), Tercer cuartil (Q3) y Rango intercuartílico
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Correlación
ERROR ESTÁNDAR
Contraste de hipótesis y p-valor
Odds ratio (OR)
Intervalo de confianza
Índice Kappa
Comparación de medias, medianas y proporciones
d de Cohen

Entidades

Unidades de cualquier naturaleza que nos interesa aislar de un entorno.

Variables

Características evaluadas a las entidades.

Población

Agrupación de entidades aisladas respecto a otras agrupaciones.

Muestra

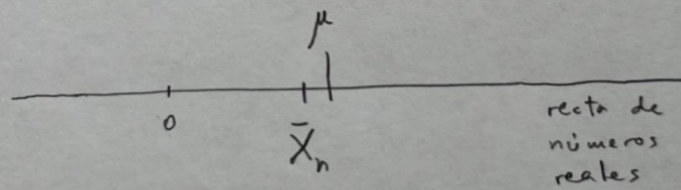
Una parte de una población, seleccionada mediante un método que tenga como objetivo la representatividad del todo a partir de esa parte.

Matriz de datos

Fuma	Bronquitis	Altura	Pie
1	1	1,67	40
1	0	1,78	41
1	0	1,65	39
1	1	1,59	38
1	1	1,81	43
1	0	1,67	37
1	0	1,77	40
1	0	1,56	35
1	0	1,71	39
1	1	1,74	40
1	1	1,82	44
1	0	1,62	35
1	0	1,65	37
0	0	1,73	40
0	0	1,64	37
0	0	1,63	38
0	0	1,68	39
0	1	1,57	35
0	0	1,84	44
0	0	1,68	39
0	0	1,72	40
0	0	1,63	38

Media

Media $\begin{cases} \text{poblacional} & \mu \\ \text{muestral} & \bar{X}_n \end{cases}$



μ es fijo pero desconocido

$\bar{X}_n$ es conocido pero variable

Muestra : $(X_1, X_2, \dots, X_n)$

$$\bar{X}_n = \frac{X_1 + X_2 + \dots + X_n}{n}$$

Población : $(X_1, X_2, \dots, X_N)$

$$\mu = \frac{X_1 + X_2 + \dots + X_N}{N}$$

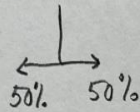
Mediana

Es el valor que separa la muestra, previamente ordenada, en dos mitades.

Ejemplo (si n es impar):

(3, 5, 1, 7, 6) Muestra

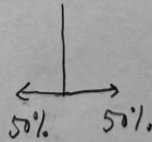
(1, 3, 5, 6, 7) Muestra ordenada de menor a mayor



Ejemplo (si n es par):

(3, 5, 1, 7, 6, 10) Muestra

(1, 3, 5, 6, 7, 10) Muestra ordenada



Se hace el promedio de los dos valores:

$$\frac{5+6}{2} = 5,5$$

Comparación Media / Mediana :

(1, 3, 5, 7, 9)

$$\text{Media} = \frac{1+3+5+7+9}{5} = 5$$

$$\text{Mediana} = 5$$

(1, 3, 5, 7, 34)

$$\text{Media} = \frac{1+3+5+7+34}{5} = 10$$

$$\text{Mediana} = 5$$

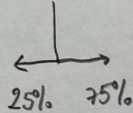
Primer cuartil

Cálculo equivalente al de la Mediana pero separando los fragmentos: uno del 25% de valores y otro del 75%.

Ejemplos:

(3, 1, 5, 9) Muestra

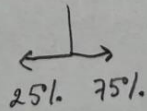
(1, 3, 5, 9) Muestra ordenada



$$\text{Primer cuartil} = \frac{1+3}{2} = 2$$

(3, 1, 5, 9, 7) Muestra

(1, 3, 5, 7, 9) Muestra ordenada



$$\text{Primer cuartil} = 3$$

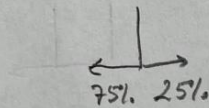
Tercer cuartil

Como el primer cuartil pero dejando a la izquierda el 75% de valores y a la derecha el 25% de valores.

Ejemplos:

(3, 1, 5, 9) Muestra

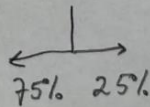
(1, 3, 5, 9) Muestra ordenada



$$\text{Tercer cuartil} = \frac{5+9}{2} = 7$$

(3, 1, 5, 9, 7) Muestra

(1, 3, 5, 7, 9) Muestra ordenada



$$\text{Tercer cuartil} = 7$$

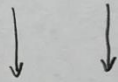
Rango intercuartílico

Valor del Tercer cuartil menos el valor del primer cuartil.

Ejemplo:

(3, 1, 5, 9) Muestra

(1, 3, 5, 9) Muestra ordenada



Primer cuartil = 2 Tercer cuartil = 7
Q1 Q3

$$IQR = Q3 - Q1 = 7 - 2 = 5$$

Mínimo, Máximo y Rango

Valor más grande de la muestra menos el valor más pequeño.

Ejemplo:

(3, 1, 5, 9)

$$\text{Rango} = 9 - 1 = 8$$

(1, 0, 7, 15, 6, 2)

$$\text{Rango} = 15 - 0 = 15$$

Box-Plot

Box-Plot : Gráfica que resume muchos de los números vistos hasta ahora:

Ejemplo :

(1, 3, 5, 11)

$$\text{Mínimo} = 1$$

$$\text{Máximo} = 11$$

$$\text{Rango} = 10$$

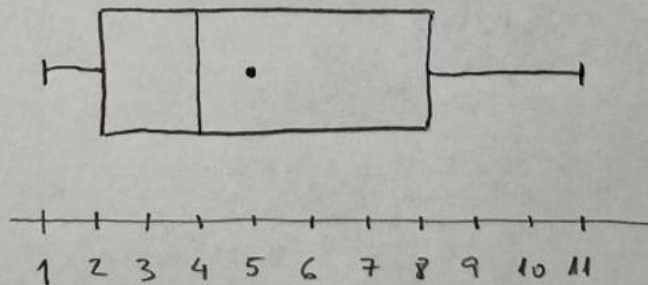
$$\text{Media} = 5$$

$$\text{Mediana} = 4$$

$$\text{Primer cuartil} = 2$$

$$\text{Tercer cuartil} = 8$$

$$\text{Rango intercuartílico (IQR)} = 6$$



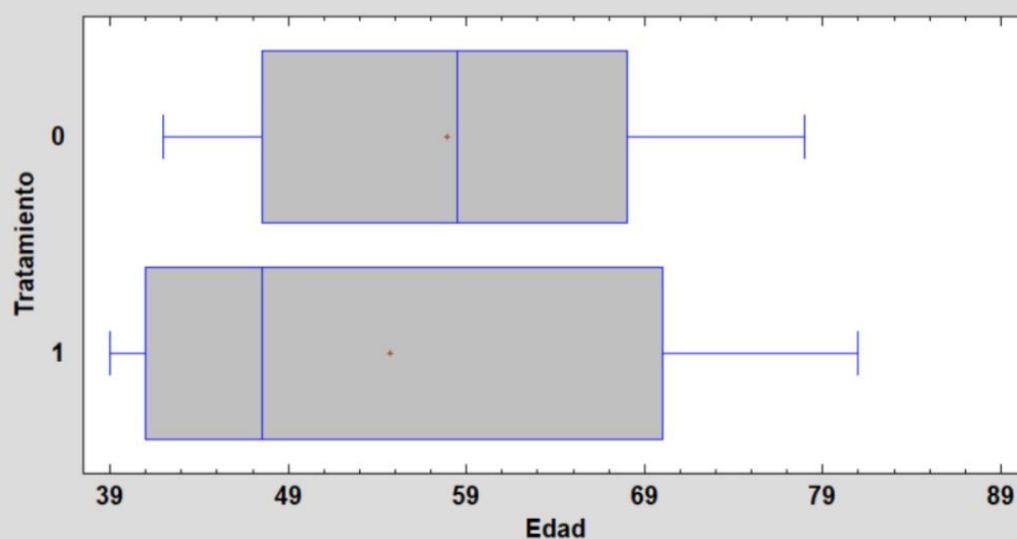
Estadísticas de Resumen

Datos/Variable: Edad

				Desviación			
Tratamiento	Recuento	Promedio	Mediana	Estándar	Mínimo	Máximo	Rango
0	20	57,9	58,5	11,8628	42,0	78,0	36,0
1	20	54,75	47,5	15,3584	39,0	81,0	42,0
Total	40	56,325	54,0	13,6389	39,0	81,0	42,0

	Cuartil	Cuartil
Tratamiento	Inferior	Superior
0	47,5	68,0
1	41,0	70,0
Total	44,0	69,0

Gráfica de Caja y Bigotes



Desviación estándar

Desviación estándar = Desviación típica

Error estándar

DE : Una medida de la dispersión de una variable.

(4, 4.5, 5, 5.5, 6) DE ↓

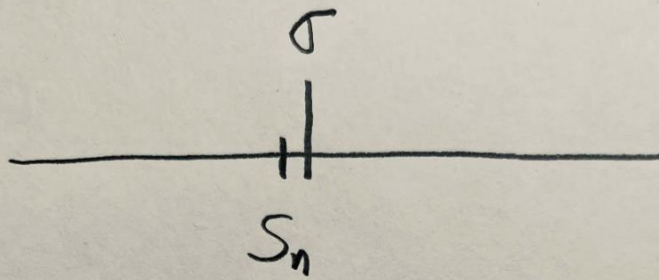
(3, 4, 5, 6, 7) DE ↑

(1, 3, 5, 7, 9) DE ↑↑

(5, 5, 5, 5, 5) DE = 0

S_n : Símbolo típico de la DE

Cálculo Desviación estándar			
Muestra	Resta de la media	Cuadrado	
0	-5	25	
5	0	0	
5	0	0	
10	5	25	
Media	Media	Media	Raíz cuadrada
5	0	12,5	3,54
Muestra	Resta de la media	Cuadrado	
3	-2	4	
5	0	0	
5	0	0	
7	2	4	
Media	Media	Media	Raíz cuadrada
5	0	2	1,41



S_n : Desviación estándar muestral

σ : Desviación estándar poblacional

$$\bar{X}_n \pm S_n$$

El gran problema de la Desviación estándar es su interpretación.

Pe :

Edad :

$$60 \pm 10$$

$$60 \pm 1$$

$$60 \pm 80$$

Proporción, Frecuencia relativa y Frecuencia absoluta

Es la aplicación de la media a una variable que
tiene sólo dos valores: 0 y 1.

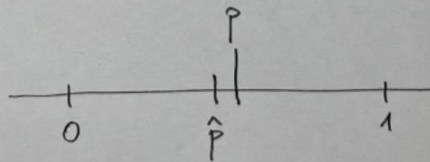
$$(X_1, X_2, \dots, X_n)$$

$$(0, 1, 1, 0, 0, 0, 1)$$

$$\hat{p} = \frac{0+1+1+0+0+0+1}{7} = \frac{3}{7} = 0.428$$

$$\mu \longleftrightarrow \bar{X}_n$$

$$p \longleftrightarrow \hat{p}$$



En variables cualitativas solemos utilizar como sinónimos Proporción y Frecuencia relativa. Pero también se utiliza, con este tipo de variables, el concepto de Frecuencia absoluta. Y esto se hace para representar el recuento de individuos que en una muestra tienen un determinado valor de una variable de este tipo.

A la Frecuencia relativa también la solemos denominar «Porcentaje».

Las variables cualitativas pueden tener dos o más valores posibles.

Por ejemplo, la variable «Ser diabético», tiene dos valores posibles: Sí o No. Estas variables cualitativas las solemos denominar dicotómicas.

La variable «Grupo sanguíneo» tiene cuatro valores posibles: A, B, AB, O.

Si tenemos una muestra con 50 personas, de las que 5 son diabéticos y 45 no. Diríamos que la frecuencia relativa o la proporción de diabéticos es del 10% o del 0,1. En este último caso lo expresamos en tanto por 1, y más frecuentemente le denominamos «Proporción».

En esta misma muestra diríamos que la frecuencia absoluta de diabéticos es 5 y la frecuencia absoluta de no diabéticos es 45.

Veamos un ejemplo con una variable cualitativa con cuatro valores posibles:

Variable cualitativa (= nominal = categórica)

Valores: a, b, c, d

Valores	Frecuencia absoluta	Frecuencia relativa	Frecuencia absoluta acumulada	Frecuencia relativa acumulada
a	5	10%	5	10%
b	10	20%	15	30%
c	5	10%	20	40%
d	30	60%	50	100%

Table 1. Clinical Characteristics of 214 Women With Anorexia Nervosa*

Characteristic	Values
Age, y	25.0 ± 6.4 (17-45)
Percentage of IBW	77 ± 6 (60-85)
Duration of AN, mo	65.9 ± 70.4 (1-336)
Age at onset of AN, y	19.5 ± 5.6 (9-40)
Women who purge, %	24.1
No. of purges/wk†	1.6 ± 15.9 (1-70)
BMI	16.8 ± 1.4 (13.2-20.8)
LBM, kg	34.3 ± 3.9 (24.5-45.5)
Fat mass, kg	8.0 ± 3.3 (2.6-20.3)
Percentage of body fat	17.7 ± 5.9 (6.3-32.4)
LMP, mo	27.1 ± 38.9 (3-300)
Amenorrhea, mo	54.6 ± 61.2 (4-324)
Age at menarche, y	13.6 ± 0.48
Women with primary amenorrhea, %	14.8
Women engaging in vigorous exercise, %	74.6
No. of hours of vigorous exercise/wk †	5.9 ± 4.8 (0.67-23.5)
Women consuming alcohol, %	41.6
No. of drinks/wk‡	2.6 ± 4.1 (0-28.0)
Women who smoke, %	16.4
No. of cigarettes/d†	11.6 ± 9.0 (0.3-40)
Women who incurred fractures, %	30.1

Abbreviations: AN, anorexia nervosa; BMI, body mass index (calculated as weight in kilograms divided by the square of height in meters); IBW, ideal body weight; LBM, lean body mass; LMP, length of time since last menstrual period.

*Values are given as mean ± SD (range) unless otherwise indicated.

†The frequency reported is the mean for all patients who engaged in the activity.

‡Social drinkers who did not specify a number of drinks were assigned zero drinks per week.

	ES group (n = 66)	Non-ES group (n = 2903)	P value
Background			
Age, years	78.4 ± 9.8	74.1 ± 12.4	0.005
Sex, male	36 (55)	1789 (62)	0.252
Body mass index, kg/m ²	20.8 ± 3.7	22.5 ± 3.8	<0.001
Pre-morbid mRS, point	2.5 [0–4]	0 [0–2]	<0.001
Hypertension	46 (70)	2279 (79)	0.096
Dyslipidemia	24 (36)	1536 (53)	0.009
Diabetes mellitus	19 (29)	735 (25)	0.567
Atrial fibrillation	21 (32)	810 (28)	0.489
Past history of stroke	27 (41)	902 (31)	0.106
Congestive heart failure	12 (18)	349 (12)	0.129
Current smoking	9 (14)	551 (19)	0.220
Current alcohol consumption	13 (20)	1146 (39)	<0.001
Laboratory data			
LDL-cholesterol, mg/dl	106.9 ± 38.6	114.9 ± 35.3	0.069
HDL-cholesterol, mg/dl	50.4 ± 14.4	50.5 ± 14.2	0.933
Total-cholesterol, mg/dl	181.9 ± 43.7	190.3 ± 41.1	0.100
Fasting plasma glucose, mg/dl	147.6 ± 70.5	136.1 ± 51.6	0.076
BUN, mg/dl	19.8 ± 7.8	18.7 ± 9.0	0.324
Creatinine, mg/dl	1.2 ± 1.0	1.1 ± 1.0	0.409
C-reactive protein, mg/dl	1.4 ± 3.8	0.7 ± 2.1	0.018
White blood cell count, x10 ³ /μl	8.3 ± 4.0	7.2 ± 2.6	<0.001
Clinical characteristics			
Systolic blood pressure, mm Hg	153.3 ± 32.6	160.9 ± 38.1	0.109
Diastolic blood pressure, mm Hg	88.1 ± 24.6	85.5 ± 20.0	0.396
Initial NIHSS, point	12.5 [5–25.3]	4 [2–11]	<0.001
NIHSS severity			<0.001
1, NIHSS ≤ 8	24 (36)	2043 (70)	
2, 9 ≤ NIHSS ≤ 15	15 (23)	296 (10)	
3, 16 ≤ NIHSS	27 (41)	591 (19)	
Classification of subtype of AIS (TOAST)			<0.001
Small-vessel occlusion	1 (1.5)	746 (26)	<0.001
Large-artery atherosclerosis	12 (18)	453 (16)	0.606
Cardioembolism	32 (49)	970 (33)	0.012
Imaging characteristics			
DWI-ASPECTS, point	10 [7–10]	10 [9,10]	0.055
Hemorrhagic stroke	10 (15)	461 (16)	1.000
Symptomatic hemorrhagic stroke	1 (1.5)	51 (1.8)	1.000
Cortical stroke lesion	59 (89)	1598 (55)	<0.001
Cortical stroke lesion in the MCA territory	54 (82)	1321 (46)	<0.001
Cortical stroke lesion in the ACA territory	12 (18)	293 (10)	0.040
Cortical stroke lesion in the PCA territory	10 (15)	334 (11)	0.333
Large vessel occlusion or stenosis	33 (50)	1458 (50)	1.000
Large vessel occlusion	27 (38)	930 (32)	0.309
Large vessel stenosis	8 (11)	629 (22)	0.029

Table 1. Baseline characteristics of the study subjects. Data are presented as mean ± standard deviation, median [interquartile range] or absolute (percentage) values. ES, early seizure; mRS, modified Rankin Scale; LDL, low-density cholesterol; HDL, high-density cholesterol; BUN, blood urea nitrogen; NIHSS, National Institutes of Health Stroke Scale; AIS, acute ischemic stroke; TOAST, Trial of Org 10172 in Acute Stroke Treatment; DWI-ASPECTS, Alberta Stroke Program Early CT Stroke score for MRI; MCA, middle cerebral artery; ACA, anterior cerebral artery; PCA, posterior cerebral artery.

Tabla 1 Características sociodemográficas, clínicas y relativas a la capacidad funcional de los pacientes incluidos en el estudio al ingreso, al alta y a los 3 meses

	n	Ingreso	Alta	3 meses	p*
Sexo, n (%)					
Hombre	166	93 (56,0)			
Mujer		73 (44,0)			
Edad, mediana (rango interc.)	166	78 (66;84)			
Tipo de ictus, n (%)					
AIT	166	15 (9,0)			
Ictus hemorrágico		17 (10,2)			
Ictus isquémico		134 (80,7)			
Talla (m), media ± desv. típica	156	1,6 ± 0,1			
Peso (kg), media ± desv. típica	156	72,3 ± 15,8		71,3 ± 14,2	0,021 ^a
IMC, media ± desv. típica	156	27,3 ± 3,9		27,0 ± 3,8	0,022 ^a
Situación sociofamiliar, n (%)					
Acompañado	166	133 (80,1)	121 (73,3)	128 (77,1)	< 0,001 ^b
Institucionalizado		8 (4,8)	26 (15,8)	20 (12,0)	
Vive solo		25 (15,1)	18 (10,9)	18 (10,8)	
Tratamiento antidepressivo, n (%)					
Sí	165	29 (17,6)	34 (20,6)	40 (24,2)	0,019 ^c
Deterioro cognitivo, n (%)					
Sí	165	17 (10,3)	37 (22,4)	34 (20,6)	< 0,001 ^c
Proceso oncológico activo, n (%)					
Sí	165	2 (1,2)	2 (1,2)	4 (2,4)	0,368 ^c
Colesterol, media ± desv. típica	157	165,8±32,7		151,4 ± 33,8	< 0,001 ^a
Albumina, mediana (rango interc.)	144	3,6 (3,4;3,9)		4,2 (3,7;4,4)	< 0,001 ^d
Linfocitos, mediana (rango interc.)	158	1700 (1300;2300)		1950 (1500;2500)	< 0,001 ^d
Índice de Barthel, mediana (rango interc.)	165	100 (90;100)	90 (60;100)	95 (80;100)	< 0,001 ^e
Escala Rankin, mediana (rango interc.)	165	1 (0;2)	2 (1;3)	1 (1;3)	< 0,001 ^e
Mini Nutritional					
Nutrición normal	164	141 (86,0%)		134 (81,7%)	0,478 ^b
Riesgo de malnutrición		22 (13,4%)		28 (17,1%)	
Malnutrición		1 (0,6%)		2 (1,2%)	
Índice CONUT					
Sin desnutrición	143	51 (35,7%)		60 (42,0%)	0,472 ^b
Desnutrición leve		72 (50,3%)		69 (48,3%)	
Desnutrición moderada		20 (14,0%)		14 (9,8%)	
Disfagia					
Sí	166	67 (40,4%)		20 (12,0%)	< 0,001

* Valor significativo para p < 0,05.

^a T-test medidas repetidas.

^b Test de McNemar.

^c Test Q de Cochran.

^d Test de Wilcoxon.

^e Test de Friedman medidas repetidas.

TABLE 1. Characteristics of the "Healthy" Cohort of Individuals Followed Prospectively From Phase 1 to Phase 2 of the Health Study of Nord-Trøndelag County

Characteristic and Number	Frequency	
	N	%
Gender (N=33,908)		
Male	17,118	50.5
Female	16,790	49.5
	Mean	SD
Age (years) (N=33,908)		
	45.2	16.5
	N	%
Marital status (N=33,690)		
Married/regular partnership	24,004	71.3
Unmarried	6,931	20.6
Divorced/separated	857	2.5
Widowed	1,898	5.6
Highest education level (N=32,978)		
Compulsory (primary)	18,064	54.8
Secondary school	10,900	33.1
University	4,014	12.2
Social class (N=30,406)^a		
Higher-grade professional	2,425	8.0
Lower-grade professional	3,960	13.0
Nonmanual employee	6,261	20.6
Small proprietor/farmer	6,973	22.9
Lower-grade technician	3,697	12.2
Manual worker	4,964	16.3
Unemployed	2,126	7.0
	Mean	SD
Cigarettes per day (N=32,579)		
	3.6	6.1
	N	%
Alcohol consumption (N=33,270)^b		
Total abstainer	2,991	9.0
None (but not total abstainer)	14,348	43.1
1–4 times	14,052	42.2
5–10 times	952	2.9
More than 10 times	927	2.8
	Mean	SD
Body mass index (kg/m²) (N=33,850)		
	24.9	3.7
	N	%
Total amount of exercise per week (N=27,136)		
None	3,390	12.5
Up to 30 minutes	6,841	25.2
31–59 minutes	6,508	24.0
1–2 hours	5,423	20.0
2–4 hours	2,579	9.5
More than 4 hours	2,395	8.8

^a Based on current occupation.

^b Data indicate frequency within the previous 7 days.

Table 1. Characteristics of the Participants at Baseline (Modified Intention-to-Treat Population).*		
Characteristic	Lecanemab (N = 859)	Placebo (N = 875)
Age — yr	71.4±7.9	71.0±7.8
Sex — no. (%)		
Female	443 (51.6)	464 (53.0)
Male	416 (48.4)	411 (47.0)
Race — no. (%)†		
White	655 (76.3)	677 (77.4)
Black	20 (2.3)	24 (2.7)
Asian	147 (17.1)	148 (16.9)
Other or missing	37 (4.3)	26 (3.0)
Hispanic ethnic group — no. (%)†	107 (12.5)	108 (12.3)
Time since diagnosis — yr	1.41±1.51	1.34±1.54
Time since onset of symptoms — yr	4.13±2.35	4.15±2.53
Global CDR score — no. (%)‡		
0.5	694 (80.8)	706 (80.7)
1	165 (19.2)	169 (19.3)
Clinical subgroup — no. (%)		
Mild dementia due to Alzheimer's disease	331 (38.5)	331 (37.8)
Mild cognitive impairment due to Alzheimer's disease	528 (61.5)	544 (62.2)
ApoE ε4 status — no. (%)		
Noncarrier	267 (31.1)	275 (31.4)
Carrier	592 (68.9)	600 (68.6)
Heterozygotes	456 (53.1)	468 (53.5)
Homozygotes	136 (15.8)	132 (15.1)
Current use of medication for symptoms of Alzheimer's disease — no. (%)	447 (52.0)	468 (53.5)
CDR-SB score§		
Mean	3.17±1.34	3.22±1.34
Range	0.5 to 8.0	0.5 to 8.5
Amyloid burden on PET — centiloids¶		
Mean	77.92±44.84	75.03±41.82
Range	−16.6 to 213.2	−17.0 to 179.6
ADAS-cog14 score		
Mean	24.45±7.08	24.37±7.56
Range	4.7 to 47.7	5.0 to 60.7
ADCOMS**		
Mean	0.398±0.147	0.400±0.147
Range	0.08 to 0.94	0.07 to 0.91

Table 1. (Continued.)		
Characteristic	Lecanemab (N = 859)	Placebo (N = 875)
ADCS-MCI-ADL score††		
Mean	41.2±6.6	40.9±6.9
Range	13 to 53	12 to 53
MMSE score‡‡		
Mean	25.5±2.2	25.6±2.2
Range	22 to 30	22 to 30

* Plus-minus values are means ±SD. ApoE denotes apolipoprotein E.

† Race and ethnic group were determined by the participants.

‡ Global Clinical Dementia Rating (CDR) scores range from 0 to 3, with higher scores indicating greater impairment. A score of 0.5 is considered to be the threshold for Alzheimer's disease and was required for trial enrollment.

§ Scores on the CDR–Sum of Boxes (CDR-SB) range from 0 to 18, with higher scores indicating greater impairment.

¶ Values for amyloid burden on positron-emission tomography (PET) were for the PET substudy population.

|| Scores on the 14-item cognitive subscale of the Alzheimer's Disease Assessment Scale (ADAS-cog14) range from 0 to 90, with higher scores indicating greater impairment.

** Values for the Alzheimer's Disease Composite Score (ADCOMS) range from 0 to 1.97, with higher scores indicating greater impairment.

†† Scores on the Alzheimer's Disease Cooperative Study–Activities of Daily Living Scale for Mild Cognitive Impairment (ADCS-MCI-ADL) range from 0 to 53, with lower scores indicating greater impairment.

‡‡ Scores on the Mini-Mental State Examination (MMSE) range from 0 to 30, with lower scores indicating greater impairment.

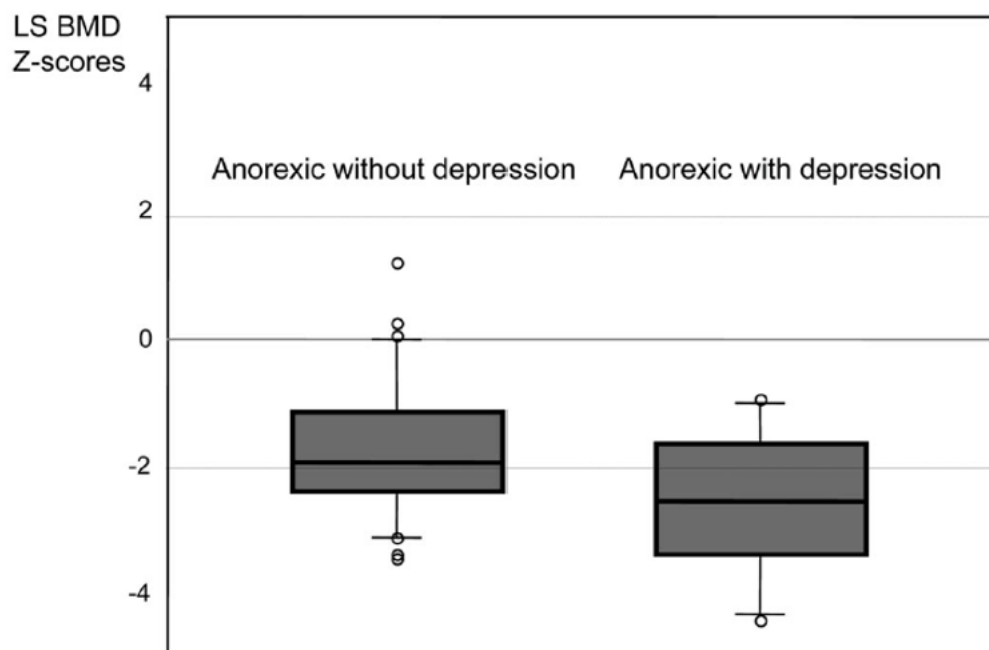


FIG. 1. LS BMD expressed as Z-scores in anorexic girls with (n = 14) and without (n = 31) depression. **Bold line**, Median; **box**, values between the 25th and 75th percentiles; **lower and upper horizontal bars**, values between 10th and 90th percentiles.

Tabla 1. Estadística descriptiva de los parámetros biológicos, índice de condición corporal (Kn) y de la concentración de los metales pesados analizados. Se indica el número de individuos analizados (n), media, mediana, rango y desviación estándar (DE).

Table 1. Descriptive statistic of biological parameters, body condition index (Kn) and heavy metals concentration. It is shown the sampler number (n), mean, median and standard deviation (DE).

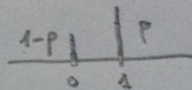
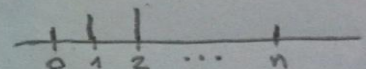
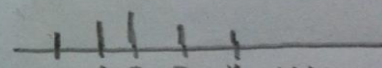
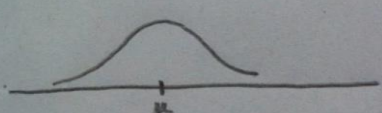
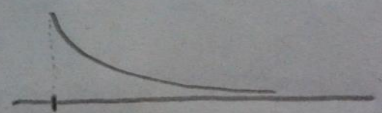
	n	Media	Mediana	Rango	DE
Edad (años)	35	2,91	2,00	0,00 - 13,00	2,69
Talla (cm)	38	115,97	114,20	78,70 - 160,50	19,29
Peso (kg)	38	20,90	19,80	5,80 - 52,00	8,67
Kn	38	0,89	0,88	0,52 - 1,30	0,17
Cd ($\mu\text{g g}^{-1}$)	37	5,72	2,99	0,20 - 29,85	7,56
Cu ($\mu\text{g g}^{-1}$)	33	4,52	3,31	1,08 - 15,22	3,62
Zn ($\mu\text{g g}^{-1}$)	36	22,50	20,90	12,17 - 34,92	4,78

Funciones de distribución

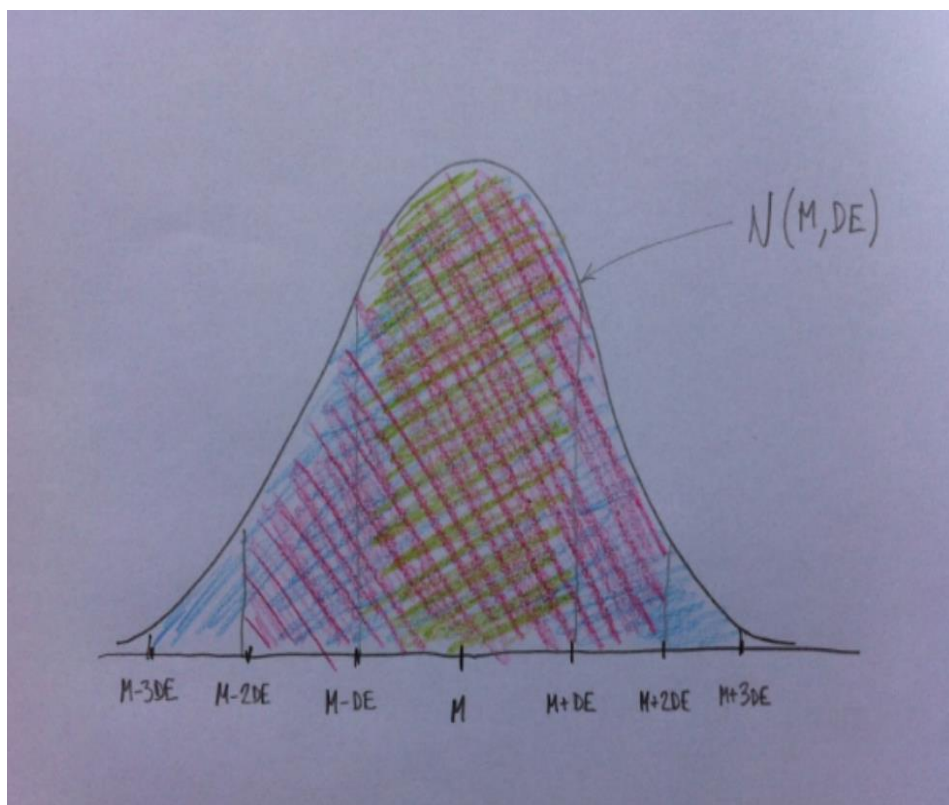
Distribución: Forma de la variabilidad de una variable.

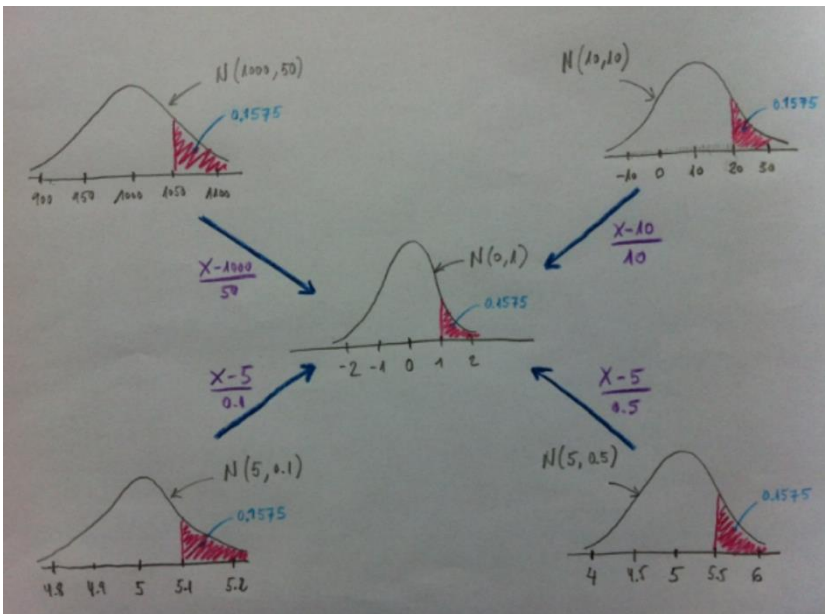
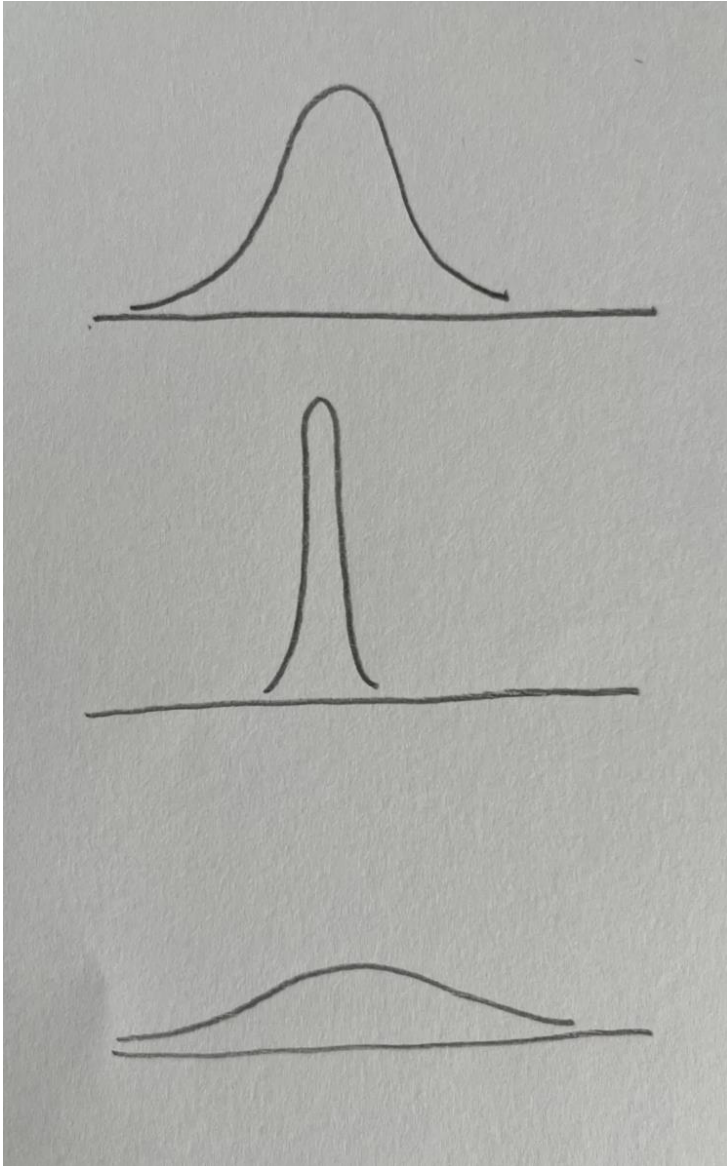
Dos formas de trabajar con distribuciones:

- 1) Distribuciones prefabricadas.
- 2) Distribuciones construidas "ad hoc".

<u>Distribución</u>	<u>Nomenclatura</u>	<u>Forma</u>
BERNOULLI	$B(p)$	
BINOMIAL	$B(n, p)$	
POISSON	$P(\lambda)$	
NORMAL	$N(\mu, \sigma)$	
EXPONENCIAL	$E(\alpha)$	

Distribución normal

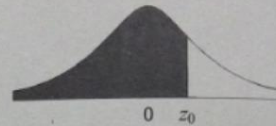




μ = Media

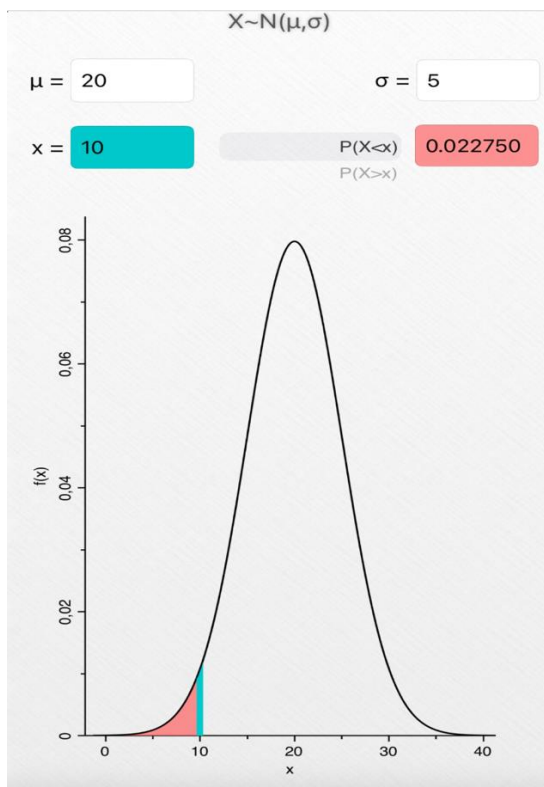
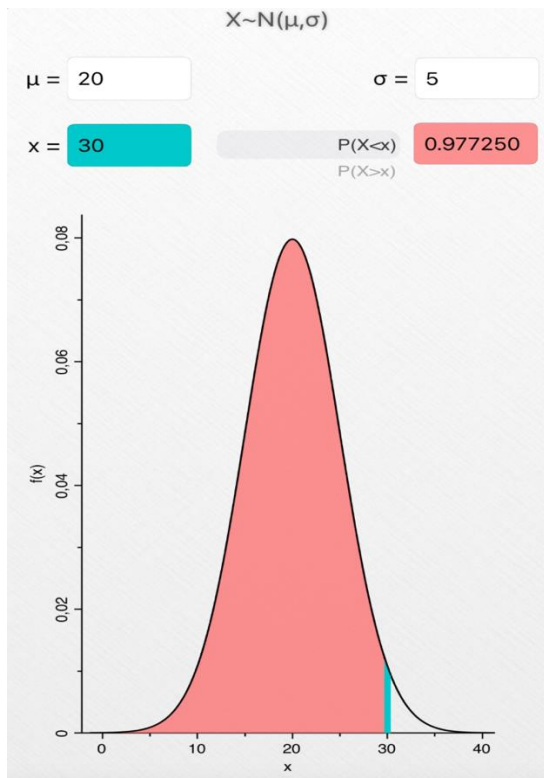
σ = Desviación típica

$$P(z \leq z_0) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{z_0} e^{-\frac{z^2}{2}} dz$$



Tipificación: $z_0 = \frac{x - \mu}{\sigma}$

z_0	0,00	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	z_0
0,0	0,5000	0,5040	0,5080	0,5120	0,5160	0,5199	0,5239	0,5279	0,5319	0,5359	0,0
0,1	0,5398	0,5438	0,5478	0,5517	0,5557	0,5596	0,5636	0,5675	0,5714	0,5753	0,1
0,2	0,5793	0,5832	0,5871	0,5910	0,5948	0,5987	0,6026	0,6064	0,6103	0,6141	0,2
0,3	0,6179	0,6217	0,6255	0,6293	0,6331	0,6368	0,6406	0,6443	0,6480	0,6517	0,3
0,4	0,6554	0,6591	0,6628	0,6664	0,6700	0,6736	0,6772	0,6808	0,6844	0,6879	0,4
0,5	0,6915	0,6950	0,6985	0,7019	0,7054	0,7088	0,7123	0,7157	0,7190	0,7224	0,5
0,6	0,7257	0,7291	0,7324	0,7357	0,7389	0,7422	0,7454	0,7486	0,7517	0,7549	0,6
0,7	0,7580	0,7611	0,7642	0,7673	0,7704	0,7734	0,7764	0,7794	0,7823	0,7852	0,7
0,8	0,7881	0,7910	0,7939	0,7967	0,7995	0,8023	0,8051	0,8078	0,8106	0,8133	0,8
0,9	0,8159	0,8186	0,8212	0,8238	0,8264	0,8289	0,8315	0,8340	0,8365	0,8389	0,9
1,0	0,8413	0,8438	0,8461	0,8485	0,8508	0,8531	0,8554	0,8577	0,8599	0,8621	1,0
1,1	0,8643	0,8665	0,8686	0,8708	0,8729	0,8749	0,8770	0,8790	0,8810	0,8830	1,1
1,2	0,8849	0,8869	0,8888	0,8907	0,8925	0,8944	0,8962	0,8980	0,8997	0,9015	1,2
1,3	0,9032	0,9049	0,9066	0,9082	0,9099	0,9115	0,9131	0,9147	0,9162	0,9177	1,3
1,4	0,9192	0,9207	0,9222	0,9236	0,9251	0,9265	0,9279	0,9292	0,9306	0,9319	1,4
1,5	0,9332	0,9345	0,9357	0,9370	0,9382	0,9394	0,9406	0,9418	0,9429	0,9441	1,5
1,6	0,9452	0,9463	0,9474	0,9484	0,9495	0,9505	0,9515	0,9525	0,9535	0,9545	1,6
1,7	0,9554	0,9564	0,9573	0,9582	0,9591	0,9599	0,9608	0,9616	0,9625	0,9633	1,7
1,8	0,9641	0,9649	0,9656	0,9664	0,9671	0,9678	0,9686	0,9693	0,9699	0,9706	1,8
1,9	0,9713	0,9719	0,9726	0,9732	0,9738	0,9744	0,9750	0,9756	0,9761	0,9767	1,9
2,0	0,9772	0,9778	0,9783	0,9788	0,9793	0,9798	0,9803	0,9808	0,9812	0,9817	2,0
2,1	0,9821	0,9826	0,9830	0,9834	0,9838	0,9842	0,9846	0,9850	0,9854	0,9857	2,1
2,2	0,9861	0,9864	0,9868	0,9871	0,9875	0,9878	0,9881	0,9884	0,9887	0,9890	2,2
2,3	0,9893	0,9896	0,9898	0,9901	0,9904	0,9906	0,9909	0,9911	0,9913	0,9916	2,3
2,4	0,9918	0,9920	0,9922	0,9925	0,9927	0,9929	0,9931	0,9932	0,9934	0,9936	2,4
2,5	0,9938	0,9940	0,9941	0,9943	0,9945	0,9946	0,9948	0,9949	0,9951	0,9952	2,5
2,6	0,9953	0,9955	0,9956	0,9957	0,9959	0,9960	0,9961	0,9962	0,9963	0,9964	2,6
2,7	0,9965	0,9966	0,9967	0,9968	0,9969	0,9970	0,9971	0,9972	0,9973	0,9974	2,7
2,8	0,9974	0,9975	0,9976	0,9977	0,9977	0,9978	0,9979	0,9979	0,9980	0,9981	2,8
2,9	0,9981	0,9982	0,9982	0,9983	0,9984	0,9984	0,9985	0,9985	0,9986	0,9986	2,9
3,0	0,99865	0,99869	0,99874	0,99878	0,99882	0,99886	0,99889	0,99893	0,99896	0,99900	3,0
3,1	0,99903	0,99906	0,99910	0,99913	0,99916	0,99918	0,99921	0,99924	0,99926	0,99929	3,1
3,2	0,99931	0,99934	0,99936	0,99938	0,99940	0,99942	0,99944	0,99946	0,99948	0,99950	3,2
3,3	0,99952	0,99953	0,99955	0,99957	0,99958	0,99960	0,99961	0,99962	0,99964	0,99965	3,3
3,4	0,99966	0,99968	0,99969	0,99970	0,99971	0,99972	0,99973	0,99974	0,99975	0,99976	3,4
3,5	0,99977	0,99978	0,99978	0,99979	0,99980	0,99981	0,99981	0,99982	0,99983	0,99983	3,5
3,6	0,99984	0,99985	0,99985	0,99986	0,99986	0,99987	0,99987	0,99988	0,99988	0,99989	3,6
3,7	0,99989	0,99990	0,99990	0,99990	0,99991	0,99991	0,99992	0,99992	0,99992	0,99992	3,7
3,8	0,99993	0,99993	0,99993	0,99994	0,99994	0,99994	0,99994	0,99995	0,99995	0,99995	3,8
3,9	0,99995	0,99995	0,99996	0,99996	0,99996	0,99996	0,99996	0,99996	0,99997	0,99997	3,9



Distribución construida “ad hoc”

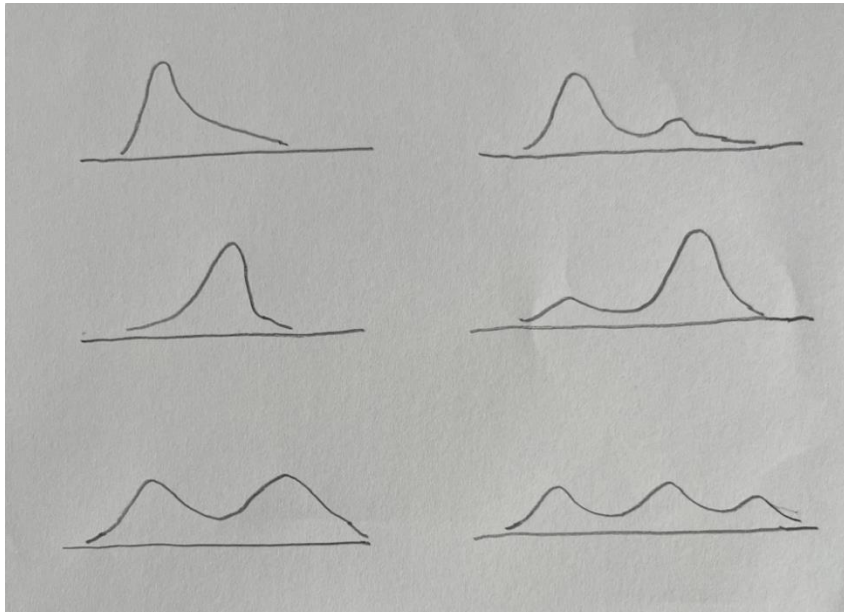


Table 1. Clinical Characteristics of 214 Women With Anorexia Nervosa*

Characteristic	Values
Age, y	25.0 ± 6.4 (17-45)
Percentage of IBW	77 ± 6 (60-85)
Duration of AN, mo	65.9 ± 70.4 (1-336)
Age at onset of AN, y	19.5 ± 5.6 (9-40)
Women who purge, %	24.1
No. of purges/wk†	1.6 ± 15.9 (1-70)
BMI	16.8 ± 1.4 (13.2-20.8)
LBM, kg	34.3 ± 3.9 (24.5-45.5)
Fat mass, kg	8.0 ± 3.3 (2.6-20.3)
Percentage of body fat	17.7 ± 5.9 (6.3-32.4)
LMP, mo	27.1 ± 38.9 (3-300)
Amenorrhea, mo	54.6 ± 61.2 (4-324)
Age at menarche, y	13.6 ± 0.48
Women with primary amenorrhea, %	14.8
Women engaging in vigorous exercise, %	74.6
No. of hours of vigorous exercise/wk ‡	5.9 ± 4.8 (0.67-23.5)
Women consuming alcohol, %	41.6
No. of drinks/wk‡	2.6 ± 4.1 (0-28.0)
Women who smoke, %	16.4
No. of cigarettes/d‡	11.6 ± 9.0 (0.3-40)
Women who incurred fractures, %	30.1

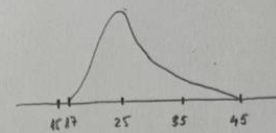
Abbreviations: AN, anorexia nervosa; BMI, body mass index (calculated as weight in kilograms divided by the square of height in meters); IBW, ideal body weight; LBM, lean body mass; LMP, length of time since last menstrual period.

*Values are given as mean ± SD (range) unless otherwise indicated.

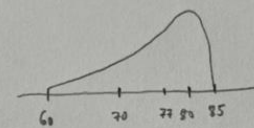
†The frequency reported is the mean for all patients who engaged in the activity.

‡Social drinkers who did not specify a number of drinks were assigned zero drinks per week.

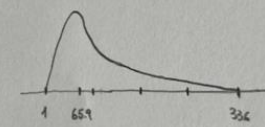
Age



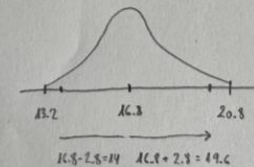
Percentage of IBW



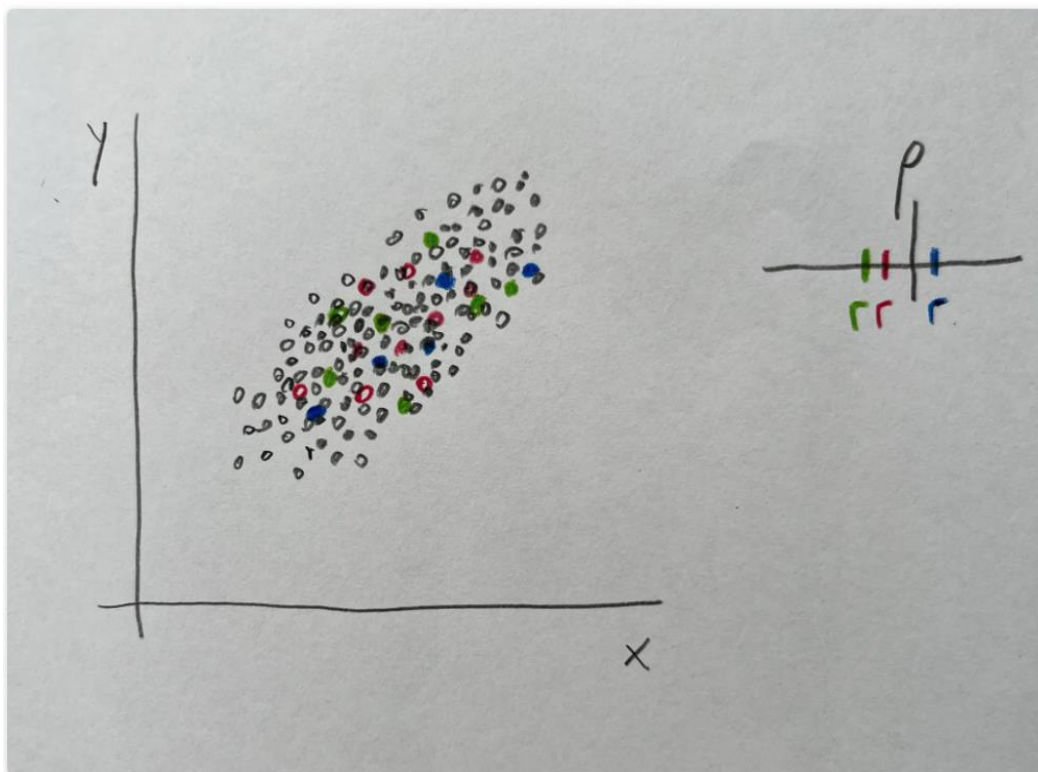
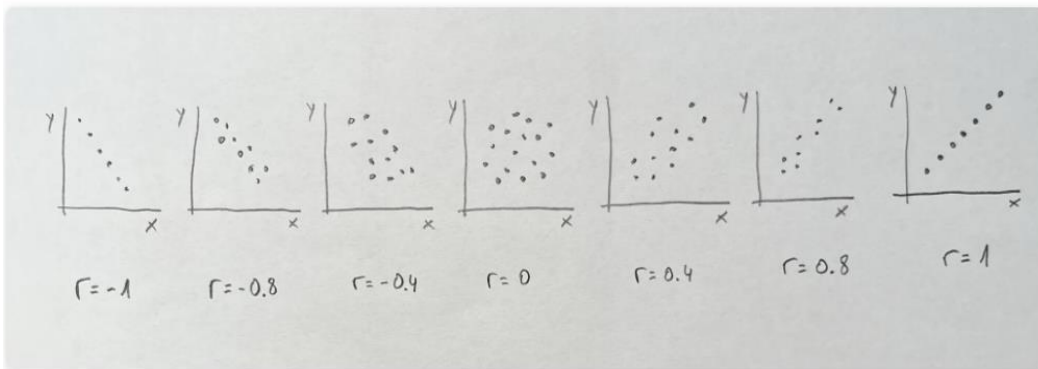
Duration of AN



BMI



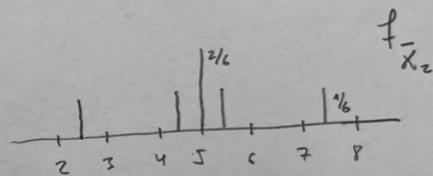
Correlación



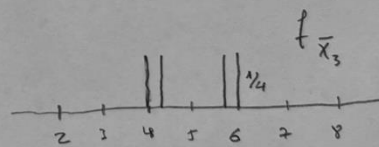
ERROR ESTÁNDAR

2	3	7	8
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	$\bar{X}_2$
(2, 3)	2.5
(2, 7)	4.5
(2, 8)	5
(3, 7)	5
(3, 8)	5.5
(7, 8)	7.5

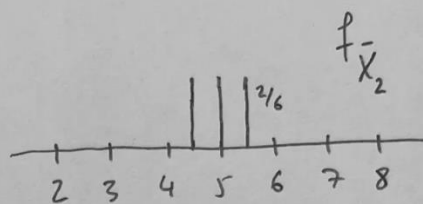


	$\bar{X}_3$
(2, 3, 7)	4
(2, 3, 8)	4.3
(2, 7, 8)	5.6
(3, 7, 8)	6

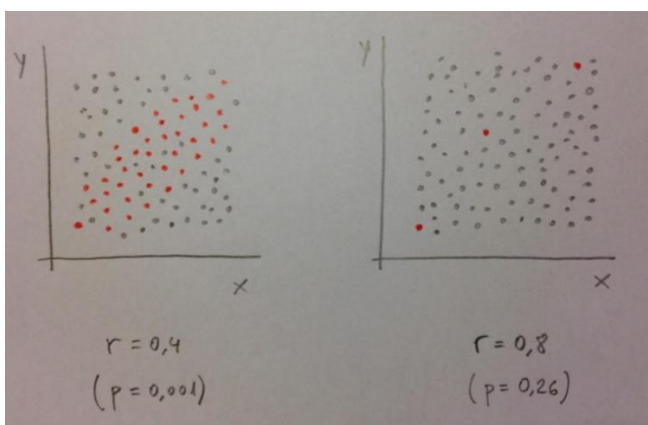
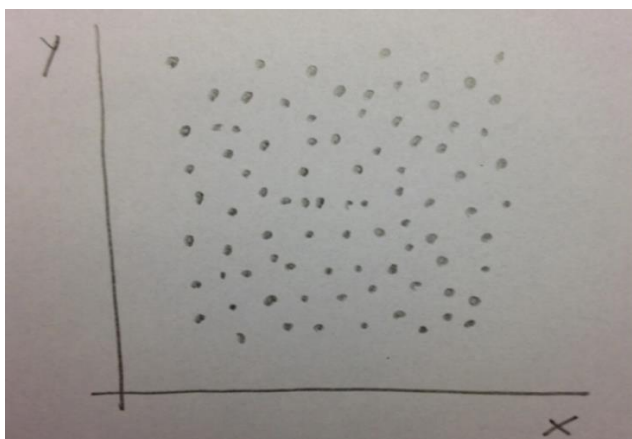
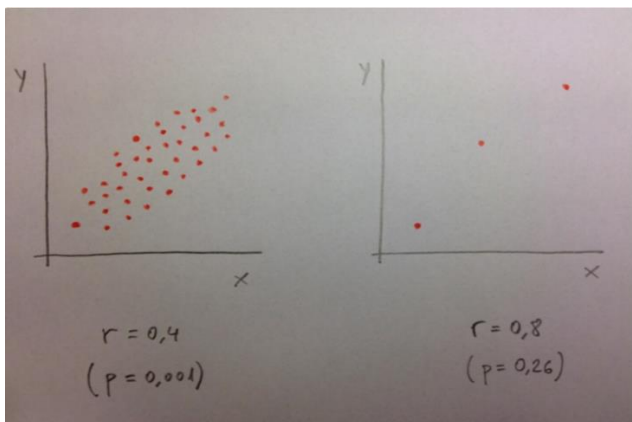


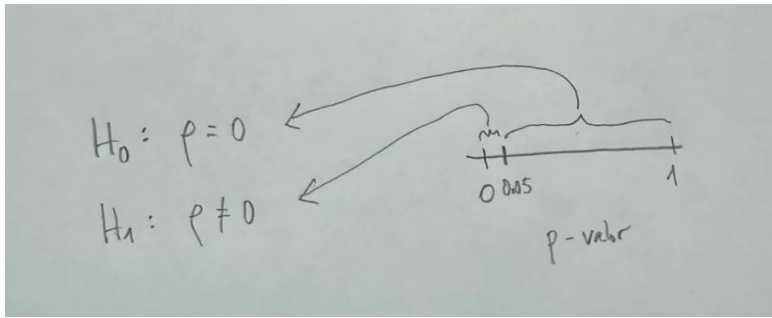
4	5	5	6
---	---	---	---

	$\bar{X}_2$
(4, 5)	4.5
(4, 5)	4.5
(4, 6)	5
(5, 5)	5
(5, 6)	5.5
(5, 6)	5.5



Contraste de hipótesis y p-valor





CONTRASTE DE HIPÓTESIS

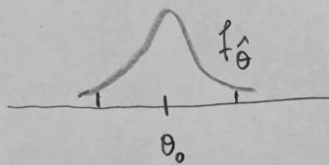
$H_0: \theta = \theta_0$	$\mu = 1/20$	$p = 0.5$	$\mu_1 - \mu_2 = 0$	$p_1 - p_2 = 0$	$p = 0$	$\chi^2 = 0$	$b = 0$	$OR = 1$
$H_1: \theta \neq \theta_0$	$\mu \neq 1/20$	$p \neq 0.5$	$\mu_1 - \mu_2 \neq 0$	$p_1 - p_2 \neq 0$	$p \neq 0$	$\chi^2 > 0$	$b \neq 0$	$OR \neq 1$

Aceptamos H_0 como cierta:

$$E(\hat{\theta}) = \theta_0$$

EE($\hat{\theta}$) conocida

Distribución $f_{\hat{\theta}}$ localizada



$\uparrow$
 Si $\hat{\theta}$ cae aquí
 $p < 0.05$

$\uparrow$
 Si $\hat{\theta}$ cae aquí dentro
 $p > 0.05$

$\uparrow$
 Si $\hat{\theta}$ cae aquí
 $p < 0.05$

$p \geq 0.05 \longrightarrow$ Mantenemos H_0

$p < 0.05 \longrightarrow$ Rechazamos H_0 y aceptamos H_1

Table 4. Correlations of Medical Findings With Clinical Characteristics

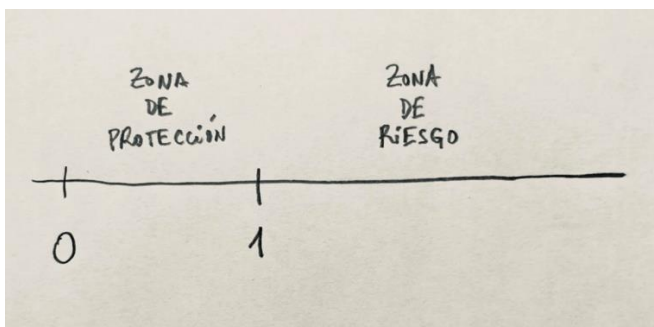
Characteristic	% IBW		LBM		% Body Fat		Duration of AN		Vigorous Exercise	
	<i>R</i>	<i>P</i> Value	<i>R</i>	<i>P</i> Value	<i>R</i>	<i>P</i> Value	<i>R</i>	<i>P</i> Value	<i>R</i>	<i>P</i> Value
HR	0.22	.005	−0.08	.39	0.28	.002	0.16	.06	−0.17	.03
Systolic BP	0.22	.005	0.13	.17	0.14	.14	0.09	.29	−0.00	.97
Temperature	0.15	.21	−0.14	.42	0.44	.01	−0.04	.81	−0.26	.03
HCT	0.04	.63	−0.03	.77	0.1	.27	0.14	.11	−0.00	.98
WBC count	0.07	.37	0.00	.97	0.01	.93	0.10	.25	−0.12	.14
Platelet count	−0.08	.37	−0.19	.05	−0.12	.22	0.33	<.001	−0.01	.89
Potassium	0.10	.19	0.28	.002	−0.19	.04	−0.1	.26	0.06	.43
Sodium	0.16	.05	0.13	.14	0.28	.002	−0.25	.004	0.15	.07
ALT	0.02	.91	−0.11	.44	−0.01	.95	0.21	.22	0.09	.53
AP spine BMD	0.25	.006	0.45	<.001	−0.12	.27	−0.20	.07	0.22	.01
Lateral spine BMD	0.27	.005	0.36	.001	−0.01	.96	−0.09	.45	0.26	.007
Total hip BMD	0.29	.002	0.60	<.001	−0.05	.67	−0.34	.002	0.37	<.001
Total body BMD	0.05	.64	0.43	<.001	−0.34	.002	−0.21	.11	0.34	.002

Abbreviations: ALT, alanine aminotransferase; AN, anorexia nervosa; AP, anteroposterior; BMD, bone mineral density; BP, blood pressure; HCT, hematocrit; HR, heart rate; IBW, ideal body weight; LBM, lean body mass; WBC, white blood cell.

Odds ratio

	Casos	Controles
Expuestos	a	b
No expuestos	c	d

$$OR = \frac{\frac{a}{b}}{\frac{c}{d}}$$



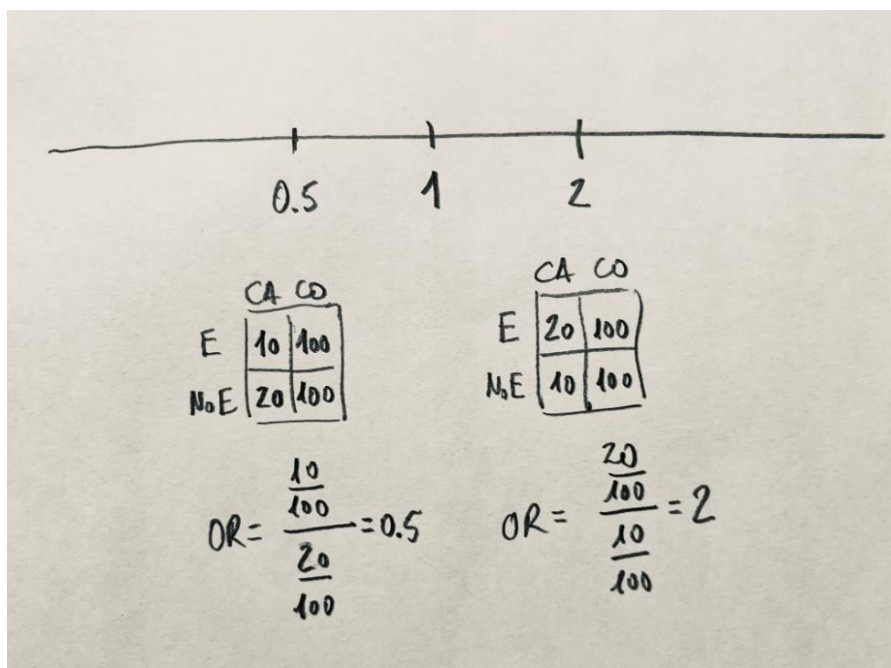


TABLE 2. Prospective Associations Between Total Amount of Exercise at Baseline and Later Depression or Anxiety

Total Amount of Exercise Per Week	Depression ^a		Anxiety ^b	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Model 1^c				
None	1.69	1.39-2.06	1.16	0.96-1.41
Up to 30 minutes	1.29	1.10-1.52	1.16	0.99-1.35
31-59 minutes	1.14	0.96-1.35	1.15	0.99-1.34
1-2 hours	1.00		1.00	
2-4 hours	1.08	0.86-1.35	1.20	0.98-1.45
More than 4 hours	1.03	0.81-1.29	1.21	0.99-1.48

<u>Actividad</u>	<u>Depresión</u>	<u>No depresión</u>
Ninguna	169	10000
Hasta 30min	129	10000
31-59min	114	10000
1-2 h	100	10000
2-4 h	108	10000
Más de 4 h	103	10000

	Cases	Controls	
Exp	169	10000	Ninjala
No exp	100	10000	1-2 h.

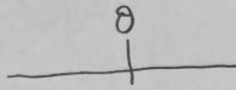
$$OR = 1.69$$

	Cases	Controls	
Exp	100	10000	1-2 h.
No exp	169	10000	Ninjala

$$OR = 0.59$$

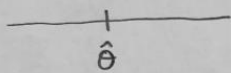
Intervalo de confianza

INTERVALO DE CONFIANZA



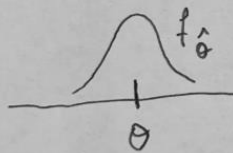
Valor poblacional

Fijo pero desconocido



Valor muestral

Conocido por variable

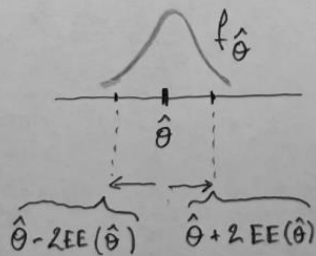


Distribución de $\hat{\theta}$

$$E(\hat{\theta}) = \theta$$

$EE(\hat{\theta})$ conocido

localización desconocida



Desplazamos sobre $\hat{\theta}$, que es un valor conocido, la distribución de $\hat{\theta}$ de localización desconocida pero de distribución conocida.

Le sumamos y le restamos $2 EE(\hat{\theta})$ para delimitar un IC 95%.

TABLE 2. Prospective Associations Between Total Amount of Exercise at Baseline and Later Depression or Anxiety

Total Amount of Exercise Per Week	Depression ^a		Anxiety ^b	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Model 1^c				
None	1.69	1.39–2.06	1.16	0.96–1.41
Up to 30 minutes	1.29	1.10–1.52	1.16	0.99–1.35
31–59 minutes	1.14	0.96–1.35	1.15	0.99–1.34
1–2 hours	1.00		1.00	
2–4 hours	1.08	0.86–1.35	1.20	0.98–1.45
More than 4 hours	1.03	0.81–1.29	1.21	0.99–1.48
Model 2^d				
None	1.53	1.25–1.88	1.09	0.90–1.33
Up to 30 minutes	1.23	1.04–1.45	1.11	0.95–1.29
31–59 minutes	1.12	0.95–1.33	1.13	0.97–1.32
1–2 hours	1.00		1.00	
2–4 hours	1.04	0.83–1.31	1.18	0.97–1.44
More than 4 hours	0.98	0.78–1.24	1.20	0.98–1.47
Model 3^e				
None	1.47	1.19–1.80	1.03	0.85–1.26
Up to 30 minutes	1.20	1.02–1.42	1.07	0.92–1.25
31–59 minutes	1.11	0.94–1.32	1.12	0.96–1.30
1–2 hours	1.00		1.00	
2–4 hours	1.04	0.83–1.31	1.18	0.97–1.44
More than 4 hours	0.97	0.77–1.23	1.20	0.98–1.47
Model 4^f				
None	1.52	1.24–1.86	1.09	0.90–1.33
Up to 30 minutes	1.22	1.03–1.44	1.11	0.95–1.29
31–59 minutes	1.12	0.95–1.33	1.13	0.97–1.31
1–2 hours	1.00		1.00	
2–4 hours	1.05	0.83–1.32	1.18	0.97–1.44
More than 4 hours	0.99	0.79–1.25	1.20	0.98–1.47
Model 5^g				
None	1.44	1.17–1.78	1.03	0.84–1.26
Up to 30 minutes	1.19	1.00–1.40	1.07	0.92–1.25
31–59 minutes	1.11	0.94–1.31	1.12	0.96–1.30
1–2 hours	1.00		1.00	
2–4 hours	1.04	0.83–1.31	1.18	0.97–1.44
More than 4 hours	0.99	0.78–1.25	1.21	0.99–1.48

^a The correlation between regular exercise and reduced incidence of future depression reached statistical significance (p=0.003).

^b The correlation between regular exercise and reduced incidence of future anxiety was not statistically significant (p=0.27).

^c Adjusted for age and gender.

^d Adjusted for age, gender, marital status, education, and social class.

^e Adjusted for sociodemographic characteristics plus cigarette and alcohol use.

^f Adjusted for sociodemographic characteristics plus body mass index.

^g Adjusted for age, gender, marital status, education, social class, number of cigarettes consumed, alcohol use, and body mass index.

Table 5. Associations between phytoplankton cell counts and incident illness occurring during the 10- to 12-day period between the beach visit and the follow-up telephone interview among beachgoers who reported body immersion in water.

Phytoplankton group	Gastrointestinal illness (n = 11,832)		Respiratory illness (n = 11,160)		Eye irritation (n = 12,013)		Rash (n = 11,857)		Earache (n = 11,947)	
	Cases (%)	OR (95% CI)	Cases (%)	OR (95% CI)	Cases (%)	OR (95% CI)	Cases (%)	OR (95% CI)	Cases (%)	OR (95% CI)
All groups combined										
≤ Q1	174 (5.0)	1	227 (6.9)	1	114 (3.2)	1	156 (4.5)	1	57 (1.6)	1
> Q1 to < Q3	211 (4.5)	0.91 (0.74, 1.12)	315 (7.1)	1.03 (0.86, 1.23)	144 (3.0)	0.93 (0.72, 1.19)	199 (4.2)	0.95 (0.77, 1.18)	96 (2.0)	1.25 (0.90, 1.74)
≥ Q3	178 (4.9)	1.00 (0.80, 1.24)	244 (7.1)	1.02 (0.85, 1.24)	155 (4.2)	1.30 (1.01, 1.66)	206 (5.6)	1.27 (1.02, 1.57)	76 (2.1)	1.25 (0.88, 1.77)
Bacillariophyta										
≤ Q1	142 (4.4)	1	189 (6.1)	1	110 (3.3)	1	170 (5.2)	1	54 (1.6)	1
> Q1 to < Q3	281 (5.0)	1.13 (0.92, 1.39)	405 (7.7)	1.28 (1.07, 1.54)	223 (3.9)	1.18 (0.94, 1.49)	279 (5.0)	0.97 (0.80, 1.18)	118 (2.1)	1.29 (0.93, 1.79)
≥ Q3	140 (4.7)	1.06 (0.83, 1.35)	192 (6.8)	1.10 (0.89, 1.35)	80 (2.7)	0.78 (0.58, 1.05)	112 (3.8)	0.73 (0.57, 0.94)	57 (1.9)	1.15 (0.79, 1.68)
Cyanobacteria										
≤ Q1	173 (5.0)	1	187 (5.8)	1	114 (3.3)	1	144 (4.2)	1	55 (1.6)	1
> Q1 to < Q3	226 (4.4)	0.87 (0.71, 1.06)	354 (7.4)	1.30 (1.08, 1.56)	161 (3.1)	0.96 (0.75, 1.22)	236 (4.6)	1.12 (0.90, 1.39)	101 (2.0)	1.25 (0.89, 1.74)
≥ Q3	164 (5.0)	0.98 (0.79, 1.22)	245 (7.8)	1.37 (1.12, 1.67)	138 (4.1)	1.25 (0.97, 1.62)	181 (5.5)	1.32 (1.05, 1.66)	73 (2.2)	1.35 (0.95, 1.93)
Picocyanophytes										
None	397 (4.8)	1	527 (6.7)	1	281 (3.3)	1	407 (4.9)	1	155 (1.8)	1
Any	166 (4.7)	0.96 (0.80, 1.16)	259 (7.8)	1.13 (0.97, 1.32)	132 (3.7)	1.10 (0.89, 1.36)	154 (4.3)	0.90 (0.74, 1.09)	74 (2.1)	1.11 (0.83, 1.47)
Dinophyta										
≤ Q1	128 (4.5)	1	192 (7.2)	1	96 (3.3)	1	151 (5.3)	1	64 (2.2)	1
> Q1 to < Q3	275 (5.3)	1.22 (0.98, 1.51)	358 (7.2)	1.01 (0.84, 1.21)	185 (3.5)	1.04 (0.81, 1.33)	243 (4.6)	0.84 (0.68, 1.04)	87 (1.6)	0.72 (0.52, 1.01)
≥ Q3	160 (4.3)	0.97 (0.76, 1.23)	236 (6.7)	0.95 (0.78, 1.15)	132 (3.5)	1.05 (0.80, 1.37)	167 (4.4)	0.82 (0.65, 1.03)	78 (2.1)	0.93 (0.67, 1.30)

Abbreviations: CI, confidence interval; OR, adjusted odds ratio; Q1, 25th percentile; Q3, 75th percentile. Models adjusted for age (as a continuous variable) and sex. Denominator for the case percentage is the total number in the exposure group.

TABLE 2 Partially Adjusted^a OR and 95% CI of Maternal, Pregnancy, and Labor Risk and Protective Factors Associated With ADHD

Risk and Protective Factors	Male			Female		
	Cases, N = 10 065	Controls, N = 23 156	OR (95% CI)	Cases, N = 2926	Controls, N = 6915	OR (95% CI)
Maternal Factors						
Maternal age, y						
<20	687	1029	1.57 (1.40–1.76)	198	325	1.57 (1.28–1.93)
20–24	2302	4765	1.17 (1.09–1.25)	703	1407	1.26 (1.12–1.43)
25–29	3432	8454	1	1001	2578	1
30–34	2538	6426	1.00 (0.94–1.07)	727	1852	1.00 (0.89–1.13)
35–39	975	2143	1.17 (1.06–1.28)	256	659	1.01 (0.85–1.21)
40+	131	339	0.98 (0.79–1.22)	41	94	1.04 (0.70–1.55)
Marital status, single	1288	2057	1.50 (1.39–1.63)	407	664	1.55 (1.35–1.78)
First pregnancy	2978	6711	1.02 (0.97–1.08)	837	1996	1.00 (0.90–1.10)
Smoking in pregnancy ^b	369	510	2.06 (1.74–2.44)	78	113	1.73 (1.21–2.48)
Pregnancy Factors						
Threatened abortion	629	1275	1.15 (1.04–1.27)	183	348	1.28 (1.06–1.55)
Threatened preterm ^b	70	67	2.46 (1.73–3.51)	12	14	2.09 (0.90–4.85)
Maternal UTI	483	820	1.37 (1.21–1.55)	144	227	1.51 (1.21–1.90)
Preeclampsia	891	1587	1.32 (1.21–1.44)	262	443	1.44 (1.22–1.70)
Premature rupture of membrane	427	925	1.04 (0.92–1.18)	104	246	1.02 (0.80–1.30)
Onset of labor						
Spontaneous	5621	14 182	1	1594	4245	1
Induced	3099	6202	1.25 (1.18–1.32)	932	1833	1.33 (1.20–1.48)
No labor	1345	2772	1.17 (1.08–1.26)	400	837	1.15 (1.01–1.31)
Oxytocin use						
Oxytocin augmentation ^b	99	249	0.93 (0.72–1.21)	21	81	0.58 (0.34–0.98)
Oxytocin induction ^b	261	503	1.18 (0.99–1.41)	63	133	1.07 (0.74–1.55)
Complications of labor						
Precipitate delivery	487	1163	0.94 (0.84–1.06)	166	363	1.10 (0.90–1.34)
Fetal distress	1488	3161	1.09 (1.02–1.17)	394	848	1.11 (0.97–1.27)
Cord prolapse	30	59	1.13 (0.71–1.81)	12	16	2.50 (1.08–5.77)
Cord tight around neck	695	1610	0.99 (0.90–1.08)	193	420	1.11 (0.93–1.33)
Presentation						
Vertex	9512	22065	1	2769	6536	1
Breech	471	952	1.17 (1.04–1.31)	133	337	0.98 (0.79–1.21)
Other	79	127	1.29 (0.97–1.73)	23	40	1.47 (0.87–2.46)
Mode of delivery						
Spontaneous vaginal	5921	14 021	1	1800	4337	1
Vacuum	1071	2546	1.01 (0.93–1.10)	283	648	1.09 (0.93–1.27)
Forceps	1025	2249	1.08 (0.99–1.17)	263	665	1.01 (0.86–1.19)
Elective caesarean	1144	2428	1.15 (1.06–1.25)	347	726	1.17 (1.01–1.36)
Emergency caesarean	1063	2294	1.10 (1.01–1.19)	265	596	1.03 (0.88–1.22)

^a Partially adjusted by year of birth and SEIFA.

^b Restricted data set: data available from 1997–2002.

Índice Kappa

Medidas de la concordancia

Concordancia inter-técnicas.

Concordancia inter-operadores.

Concordancia intra-operadores (Test-retest).

Índice Kappa (K).

Técnica 2
Operario 2
Operario (t_2)

		v_1	v_2
Técnica 1 Operario 1 Operario (t_1)	v_1	a	b
	v_2	c	d

	v_1	v_2	v_3
v_1	a	b	c
v_2	d	e	f
v_3	g	h	i

	v_1	v_2
v_1	25	25
v_2	25	25

	v_1	v_2
v_1	40	10
v_2	10	40

	v_1	v_2
v_1	48	2
v_2	2	48

	v_1	v_2	v_3
v_1	10	10	10
v_2	10	10	10
v_3	10	10	10

	v_1	v_2	v_3
v_1	20	5	5
v_2	5	20	5
v_3	5	5	20

	v_1	v_2	v_3
v_1	29	1	0
v_2	1	29	0
v_3	0	1	29

K bajo

K media

K alta

Tabla 2.

Kappa (κ)	Grado de acuerdo
< 0,00	Sin acuerdo
0,00-0,20	Insignificante
0,21-0,40	Mediano
0,41-0,60	Moderado
0,61-0,80	Sustancial
0,81-1,00	Casi perfecto

TABLA 4. Índice kappa para los diagnósticos más prevalentes con su intervalo de confianza del 95% y su significación estadística

Diagnóstico	Kappa	IC del 95%	p
Neumonía	0,59	0,41-0,77	< 0,05
Apendicitis	0,39	0,17-0,61	< 0,05
Ictus	0,79	0,63-0,95	< 0,05
TVP*	0,76	0,60-0,94	< 0,05
Infección urinaria	0,69	0,47-0,91	< 0,05
Artritis aguda	0,39	0,12-0,65	< 0,05
Gastroenteritis aguda	0,84	0,70-0,98	< 0,05
Angina de pecho	0,91	0,80-1,00	< 0,05
Dolor osteomuscular	0,30	0,01-0,59	< 0,05
Crisis hipertensiva	0,84	0,65-1,00	< 0,05
Dolor abdominal no quirúrgico	0,41	0,14-0,68	< 0,05
Estreñimiento	0,59	0,34-0,84	< 0,05
Broncospamo	0,91	0,82-1,00	< 0,05
Insuficiencia cardíaca	0,49	0,24-0,76	< 0,05

*TVP: trombosis venosa profunda.

Comparación de medias, medianas y proporciones

CONTRASTES DE HIPÓTESIS DE DOS POBLACIONES

1. Variables cuantitativas:

a. Muestras independientes:

- i. Las dos muestras se ajustan a la distribución normal: **Test de la t de Student**
- ii. alguna de las muestras no se ajusta a la distribución normal: **Test de Mann Whitney**

b. Muestras relacionadas:

- i. La resta ajustada a la distribución normal: **Test de la t de Student de datos apareados**
- ii. La resta no ajustada a la distribución normal: **Test de Wilcoxon**

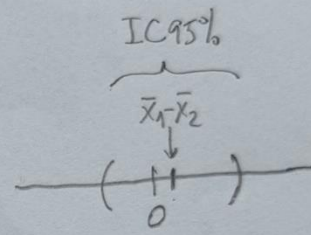
2. Variables cualitativas:

a. Muestras independientes: **Test de la Ji-cuadrado**

b. Muestras relacionadas: **Test de Mc Nemar**

$$H_0: \mu_1 = \mu_2 \quad (\mu_1 - \mu_2 = 0)$$

$$p \geq 0.05$$



$$H_1: \mu_1 \neq \mu_2 \quad (\mu_1 - \mu_2 \neq 0)$$

$$p < 0.05$$

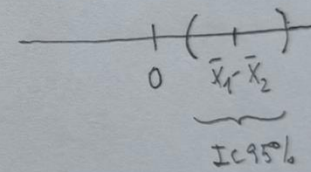


Table 1 Baseline characteristics of participants according to diagnosed dementia at follow-up

Variables		Dementia		P value
		No	Yes	
Age at baseline	Mean (SD)	64.1 (2.8)	65.8 (2.7)	<0.001
Sex	Female	79 816 (52.0)	631 (43.7)	<0.001
	Male	73 803 (48.0)	813 (56.3)	
Education	Lower	40 575 (26.7)	536 (38.2)	<0.001
	Intermediate	71 838 (47.4)	606 (43.2)	
	Higher	39 304 (25.9)	261 (18.6)	
Long-term illness	No	57 734 (38.7)	319 (23.3)	<0.001
	Yes	91 264 (61.3)	1053 (76.7)	
Physical activity	Low	45 961 (30.7)	479 (34.9)	0.001
	High	103 933 (69.3)	893 (65.1)	
Current smoker	No	140 640 (92.0)	1281 (89.4)	<0.001
	Yes	12 264 (8.0)	152 (10.6)	
Alcohol consumption	Lower	81 237 (52.9)	866 (60.1)	<0.001
	Higher	72 281 (47.1)	575 (39.9)	
Depressive symptoms	Low	121 502 (82.5)	1014 (75.8)	<0.001
	Low medium	21 350 (14.5)	245 (18.3)	
	High medium	2788 (1.9)	42 (3.1)	
	High	1639 (1.1)	37 (2.8)	
Townsend deprivation index	Mean (SD)	-1.7 (2.8)	-1.1 (3.3)	<0.001
Socially isolated	No	138 407 (91.5)	1208 (87.3)	<0.001
	Yes	12 922 (8.5)	175 (12.7)	
Feeling lonely	No	138 250 (94.5)	1253 (92.5)	0.001
	Yes	7999 (5.5)	102 (7.5)	
Genetic dementia risk	Low	51 355 (33.4)	333 (23.1)	<0.001
	Intermediate	51 171 (33.3)	517 (35.8)	
	High	51 093 (33.3)	594 (41.1)	
Apolipoprotein E genotype	None	113 994 (74.2)	707 (49.0)	<0.001
	One e4 allele	36 103 (23.5)	568 (39.3)	
	Two e4 alleles	3522 (2.3)	169 (11.7)	

	ES group (n = 66)	Non-ES group (n = 2903)	P value
Background			
Age, years	78.4 ± 9.8	74.1 ± 12.4	0.005
Sex, male	36 (55)	1789 (62)	0.252
Body mass index, kg/m ²	20.8 ± 3.7	22.5 ± 3.8	<0.001
Pre-morbid mRS, point	2.5 [0–4]	0 [0–2]	<0.001
Hypertension	46 (70)	2279 (79)	0.096
Dyslipidemia	24 (36)	1536 (53)	0.009
Diabetes mellitus	19 (29)	735 (25)	0.567
Atrial fibrillation	21 (32)	810 (28)	0.489
Past history of stroke	27 (41)	902 (31)	0.106
Congestive heart failure	12 (18)	349 (12)	0.129
Current smoking	9 (14)	551 (19)	0.220
Current alcohol consumption	13 (20)	1146 (39)	<0.001
Laboratory data			
LDL-cholesterol, mg/dl	106.9 ± 38.6	114.9 ± 35.3	0.069
HDL-cholesterol, mg/dl	50.4 ± 14.4	50.5 ± 14.2	0.933
Total-cholesterol, mg/dl	181.9 ± 43.7	190.3 ± 41.1	0.100
Fasting plasma glucose, mg/dl	147.6 ± 70.5	136.1 ± 51.6	0.076
BUN, mg/dl	19.8 ± 7.8	18.7 ± 9.0	0.324
Creatinine, mg/dl	1.2 ± 1.0	1.1 ± 1.0	0.409
C-reactive protein, mg/dl	1.4 ± 3.8	0.7 ± 2.1	0.018
White blood cell count, x10 ³ /μl	8.3 ± 4.0	7.2 ± 2.6	<0.001
Clinical characteristics			
Systolic blood pressure, mm Hg	153.3 ± 32.6	160.9 ± 38.1	0.109
Diastolic blood pressure, mm Hg	88.1 ± 24.6	85.5 ± 20.0	0.396
Initial NIHSS, point	12.5 [5–25.3]	4 [2–11]	<0.001
NIHSS severity			<0.001
1, NIHSS ≤ 8	24 (36)	2043 (70)	
2, 9 ≤ NIHSS ≤ 15	15 (23)	296 (10)	
3, 16 ≤ NIHSS	27 (41)	591 (19)	
Classification of subtype of AIS (TOAST)			<0.001
Small-vessel occlusion	1 (1.5)	746 (26)	<0.001
Large-artery atherosclerosis	12 (18)	453 (16)	0.606
Cardioembolism	32 (49)	970 (33)	0.012
Imaging characteristics			
DWI-ASPECTS, point	10 [7–10]	10 [9,10]	0.055
Hemorrhagic stroke	10 (15)	461 (16)	1.000
Symptomatic hemorrhagic stroke	1 (1.5)	51 (1.8)	1.000
Cortical stroke lesion	59 (89)	1598 (55)	<0.001
Cortical stroke lesion in the MCA territory	54 (82)	1321 (46)	<0.001
Cortical stroke lesion in the ACA territory	12 (18)	293 (10)	0.040
Cortical stroke lesion in the PCA territory	10 (15)	334 (11)	0.333
Large vessel occlusion or stenosis	33 (50)	1458 (50)	1.000
Large vessel occlusion	27 (38)	930 (32)	0.309
Large vessel stenosis	8 (11)	629 (22)	0.029

Table 1. Baseline characteristics of the study subjects. Data are presented as mean ± standard deviation, median [interquartile range] or absolute (percentage) values. ES, early seizure; mRS, modified Rankin Scale; LDL, low-density cholesterol; HDL, high-density cholesterol; BUN, blood urea nitrogen; NIHSS, National Institutes of Health Stroke Scale; AIS, acute ischemic stroke; TOAST, Trial of Org 10172 in Acute Stroke Treatment; DWI-ASPECTS, Alberata Stroke Program Early CT Stroke score for MRI; MCA, middle cerebral artery; ACA, anterior cerebral artery; PCA, posterior cerebral artery.

Table 2. Changes in Primary and Secondary Outcomes.*				
Variable	Mean Change from Baseline (95% CI)		Between-Group Difference (95% CI)	
	Tai Chi Group (N=33)	Control Group (N=33)	Tai Chi Group vs. Control Group	P Value†
FIQ score‡				
Week 12	-27.8 (-33.8 to -21.8)	-9.4 (-15.5 to -3.4)	-18.4 (-26.9 to -9.8)	<0.001
Week 24	-28.6 (-34.8 to -22.4)	-10.2 (-16.4 to -4.0)	-18.3 (-27.1 to -9.6)	<0.001
Patient's global assessment score§				
Week 12	-2.5 (-3.3 to -1.7)	-0.6 (-1.4 to 0.2)	-1.9 (-3.1 to -0.7)	0.002
Week 24	-2.4 (-3.1 to -1.7)	-0.7 (-1.4 to 0.01)	-1.7 (-2.7 to -0.8)	0.001
Physician's global assessment score§				
Week 12	-1.0 (-1.7 to -0.4)	0.02 (-0.6 to 0.7)	-1.1 (-1.9 to -0.2)	0.02
Week 24	-0.5 (-1.2 to 0.1)	0.6 (0.03 to 1.2)	-1.1 (-2.0 to -0.2)	0.02
PSQI score¶				
Week 12	-3.6 (-4.8 to -2.4)	-0.7 (-1.9 to 0.5)	-2.9 (-4.6 to -1.2)	0.001
Week 24	-4.2 (-5.8 to -2.7)	-1.2 (-2.7 to 0.4)	-3.0 (-5.2 to -0.9)	0.007
6-Minute walk test (yd)				
Week 12	60.6 (37.9 to 83.3)	16.3 (-6.4 to 38.9)	44.4 (12.3 to 76.4)	0.007
Week 24	49.8 (25.9 to 73.8)	23.2 (0.8 to 47.1)	26.7 (-7.2 to 60.5)	0.12
Body-mass index**				
Week 12	0.02 (-0.4 to 0.4)	-0.2 (-0.5 to 0.2)	0.2 (-0.3 to 0.7)	0.47
Week 24	-0.2 (-0.7 to 0.3)	-0.3 (-0.8 to 0.2)	0.1 (-0.6 to 0.8)	0.76
SF-36 score††				
Physical component				
Week 12	8.5 (5.7 to 11.3)	1.4 (-1.5 to 4.2)	7.1 (3.1 to 11.1)	0.001
Week 24	8.4 (5.6 to 11.3)	1.5 (-1.4 to 4.3)	7.0 (2.9 to 11.0)	0.001
Mental component				
Week 12	7.7 (3.9 to 11.6)	1.6 (-2.2 to 5.4)	6.1 (0.7 to 11.6)	0.03
Week 24	8.5 (4.6 to 12.4)	1.2 (-2.7 to 5.0)	7.3 (1.9 to 12.8)	0.009

Tabla 1 Características sociodemográficas, clínicas y relativas a la capacidad funcional de los pacientes incluidos en el estudio al ingreso, al alta y a los 3 meses

	n	Ingreso	Alta	3 meses	p [*]
Sexo, n (%)					
Hombre	166	93 (56,0)			
Mujer		73 (44,0)			
Edad, mediana (rango interc.)	166	78 (66;84)			
Tipo de ictus, n (%)					
AIT	166	15 (9,0)			
Ictus hemorrágico		17 (10,2)			
Ictus isquémico		134 (80,7)			
Talla (m), media ± desv. típica	156	1,6 ± 0,1			
Peso (kg), media ± desv. típica	156	72,3 ± 15,8		71,3 ± 14,2	0,021 ^a
IMC, media ± desv. típica	156	27,3 ± 3,9		27,0 ± 3,8	0,022 ^a
Situación sociofamiliar, n (%)					
Acompañado	166	133 (80,1)	121 (73,3)	128 (77,1)	< 0,001 ^b
Institucionalizado		8 (4,8)	26 (15,8)	20 (12,0)	
Vive solo		25 (15,1)	18 (10,9)	18 (10,8)	
Tratamiento antidepresivo, n (%)					
Sí	165	29 (17,6)	34 (20,6)	40 (24,2)	0,019 ^c
Deterioro cognitivo, n (%)					
Sí	165	17 (10,3)	37 (22,4)	34 (20,6)	< 0,001 ^c
Proceso oncológico activo, n (%)					
Sí	165	2 (1,2)	2 (1,2)	4 (2,4)	0,368 ^c
Colesterol, media ± desv. típica	157	165,8 ± 32,7		151,4 ± 33,8	< 0,001 ^a
Albumina, mediana (rango interc.)	144	3,6 (3,4;3,9)		4,2 (3,7;4,4)	< 0,001 ^d
Linfocitos, mediana (rango interc.)	158	1700 (1300;2300)		1950 (1500;2500)	< 0,001 ^d
Índice de Barthel, mediana (rango interc.)	165	100 (90;100)	90 (60;100)	95 (80;100)	< 0,001 ^e
Escala Rankin, mediana (rango interc.)	165	1 (0;2)	2 (1;3)	1 (1;3)	< 0,001 ^e
Mini Nutritional					
Nutrición normal	164	141 (86,0%)		134 (81,7%)	0,478 ^b
Riesgo de malnutrición		22 (13,4%)		28 (17,1%)	
Malnutrición		1 (0,6%)		2 (1,2%)	
Índice CONUT					
Sin desnutrición	143	51 (35,7%)		60 (42,0%)	0,472 ^b
Desnutrición leve		72 (50,3%)		69 (48,3%)	
Desnutrición moderada		20 (14,0%)		14 (9,8%)	
Disfagia					
Sí	166	67 (40,4%)		20 (12,0%)	< 0,001

* Valor significativo para p < 0,05.

^a T-test medidas repetidas.

^b Test de McNemar.

^c Test Q de Cochran.

^d Test de Wilcoxon.

^e Test de Friedman medidas repetidas.

Table III. Echocardiographic and Doppler measures in patients with AN compared with those of constitutionally thin women or normal-weight women

Measure	AN	Thin	Normal-weight
EDD (cm)	4.15 ± 0.43	4.69 ± 0.19 [†]	4.78 ± 0.31 [†]
ESD (cm)	2.24 ± 0.24	2.88 ± 0.17 [†]	2.91 ± 0.12 [†]
IVSth (mm)	7.4 ± 0.9	8 ± 1	7.9 ± 0.6
LVPWth (mm)	6.7 ± 1	7.1 ± 0.8	6.9 ± 1
EF (%)	65.6 ± 6.1	68.5 ± 4.5	68.2 ± 5.2
FS (%)	38.2 ± 4.6	39.8 ± 3.6	39.8 ± 4.1
SV (mL)	55.2 ± 12.7	85.9 ± 5.9 [‡]	86.3 ± 4.9 [‡]
CO (L/min)	3.12 ± 0.93	4.93 ± 0.38 [‡]	4.89 ± 0.73 [‡]
LV mass (g)	82.9 ± 17.1	119.9 ± 13.8 [‡]	126.12 ± 16.4 [‡]
LV mass index (g/m ^{2.7})	21.4 ± 3.3	29.4 ± 2.5 [‡]	31.2 ± 3.1 [‡]
Peak E (cm/sec)	92.7 ± 12.1	83 ± 6.2	86.8 ± 9.1
Peak A (cm/sec)	35.9 ± 8.5	45.2 ± 7.3 [°]	46.6 ± 6.3 [°]
E/A ratio	2.8 ± 0.7	1.9 ± 0.3 [†]	2 ± 0.5 [°]

EDD, End diastolic diameter of left ventricle; *ESD*, end systolic diameter of left ventricle; *IVSth*, thickness of interventricular septum; *LVPWth*, thickness of left ventricular posterior wall; *EF*, ejection fraction; *FS*, fractional shortening; *SV*, stroke volume; *CO*, cardiac output; *Peak E*, early diastolic velocity of left ventricular filling; *Peak A*, early diastolic velocity of left ventricular filling. (Mean ± SD).

[°]*P* < .01.

[†]*P* < .001.

[‡]*P* < .0001 versus patients with AN.

Table I. Baseline Profile			
VARIABLES	RURAL (N=250)	URBAN (N=204)	P VALUE
Clinics, No.	2	3	
Male sex, No. (%)	102 (40.8)	113 (55.4)	.002
Age, y	58.6 (11.4)	53.8 (10.3)	<.001
Origin, survey, No. (%)	119 (47.6)	87 (42.6)	.337
Blood pressure, mm Hg			
Systolic	159.7 (24.1)	155.9 (24.0)	.101
Diastolic	97.6 (14.2)	94.5 (14.2)	.026
Body mass index, kg/m ²	23.9 (3.9)	27.4 (5.7)	<.001
Diabetes, No. (%)	18 (7.2)	84 (41.2)	<.001
Fasting capillary glucose, mmol/L ^a	8.5 (4.8)	10.4 (5.3)	.144
Values are expressed as mean (standard deviation) unless otherwise indicated. ^a For participants with diabetes.			

La d de Cohen

$$d = \frac{\bar{X}_1 - \bar{X}_2}{S}$$

$\bar{X}_1$ = Media muestral del grupo 1

$\bar{X}_2$ = Media muestral del grupo 2

S = Desviación estándar muestral promedio de las dos muestras

