Cuadro I

EFECTO DEL EJERCICIO FÍSICO EN VARIABLES DE RIESGO CARDIOVASCULAR EN ADOLESCENTES. SAN LUIS POTOSÍ, 2012

Variable		Todos			Hombres			Mujeres	
	N=	Media Preintervención ±DE	Media Posintervención ±DE	n=	Media Preintervención ±DE	Media Posintervención ±DE	n=	Media Preintervención ±DE	Media Posintervención ±DE
Colesterol (mg/dL)*‡	97	166.58±39.6	154.92±23.3	31	167.46/+-33.40	160.88 ±32.70	66	166.16±42.5	152.10±33.7
Triglicéridos (mg/dL)‡	97	120.69±46.9	116.51±47.3	31	137.23/+- 56.80	138.76± 57.70	66	112.87±39.6	106.00±39.1
HDL (mg/dL)*	97	44.76±9.2	46.14±12.0	31	41.65/+-7.32	41.46±9.10	66	48.27±13.29	46.32±8.98
LDL (mg/dL)*	97	94.56±30.1	89.55±24.3	31	98.44/+-24.90	93.30±23.80	66	92.72±32.39	87.78±24.59
VLDL (mg/dL)*	97	23.81±8.8	24.28±10.3	31	27.01/+-11.00	28.80±12.10	66	22.3±7.24	22.15±8.7
Peso (Kg)*‡	97	77.34 ±12.9	75.65±13.4	31	85.80±13.10	84.36±13.17	66	73.34±10.94	71.54±11.58
IMC (Kg/m²)*‡	97	28.89±3.4	27.81±3.8	31	29.69±3.59	28.61±3.84	66	28.51±3.4	27.43±3.8
ICC*‡	97	0.9099±0.05	0.9007±0.05	31	.9220±0.05	0.9190±0.05	66	0.8978±.05	0.8969±0.05

ICC (índice cintura-cadera)
* t pareada
‡ p= <0.05

Cuadro II

CORRELACIÓN CON ANÁLISIS DE REGRESIÓN MÚLTIPLE ENTRE LOS VALORES DEL PERFIL DE LÍPIDOS DESPUÉS DE LA INTERVENCIÓN Y OTRAS VARIABLES DIFERENTES AL EJERCICIO FÍSICO. SAN LUIS POTOSÍ, 2012

Variable correlacionada	Perfil de Lípidos				
	Colesterol (R)	Triglicéridos (R)	HDL (R)	LDL (R)	VLDL (R)
Dieta	.010*	.018*	.023*	-.006*	-.014*
IMC	-.001*	-.063*	-.077*	.018*	.089*
Genero	.020*	-.042*	.079*	-.026*	.034*
ICC	.004*	-.020*	-.065*	.006*	.033*

(R) Regresión Múltiple
* p= <0.05

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Causes of total and permanent disability in middle-aged adult workers affiliated with the Mexican Social Security Institute in Baja California, Mexico

To the editor: With the present study, we show the causes of total and permanent disability (TPD) in health care personnel and a group of insured workers affiliated with the Mexican

Social Security Institute (IMSS) in the state of Baja California, Mexico, during the period from 2005 to 2011.

Worldwide, pensions usually only refer to retirement pensions. However, another important reality that accompanies any pension system is that not all members reach retirement in an optimal state of health. Disease and non-occupational accidents causing disability are also important in the scheme of social security.[1] According to Article 119 of the IMSS' Law, TPD exists when the insured person suffers a total disability that results in a 50% loss of regular monthly income and that inability results from a non-professional illness or accident.[2]

We included all (n= 208) cases of TPD reported in IMSS health care personnel issued from January 1, 2005 to December 31, 2011. The causes of disability among health care personnel were matched in a 2:1 ratio with the first 416 TPD reports of workers insured with the IMSS by gender and age (±5 years). The average age (±SD) at the time of the disability report was 47.0 (±7.0) years and 379 (60.7%) were women. The main causes of disability are shown in table I. Females had a significantly higher frequency of disability for rheumatic diseases (13.2 vs. 6.5%, p=0.008). Males had a significantly higher frequency of disability due to secondary to chronic diabetes mellitus (DM) (16.7 vs. 11.1%, p=0.04), cardiovascular diseases (20.0 vs. 9.5%, p=0.001) and psychiatric disorders (7.8 vs. 4.5%, p=0.08) (table II).

The Global Burden of Disease (GBD) studies done in 2010 found the main contributors to global years lived with disability (YLD) were mental and behavioral disorders, musculoskeletal disorders, and diabetes.[3] The number of people with disabilities is increasing due to population growth, ageing, emergence of chronic diseases and medical ad-

Table I
DISABILITY CAUSES IN HEALTH PERSONNEL AND IN PERSONS INSURED BY THE IMSS. MEXICO, 2005-2011

Disorders	n= 624	%
Kidney	21	3.4
Neurological	53	8.5
Hemato-oncological	72	11.5
Rheumatic diseases	66	10.6
Cardiovascular	85	13.6
Ophthalmological	30	4.8
Gastrointestinal	32	5.1
Respiratory	25	4.0
Musculoskeletal	44	7.1
Psychiatric disorders	36	5.8)
Cervical/lumbar spine herniated disk	77	12.3
Disability due to diabetes mellitus chronic complications	83	13.3

vances that preserve and prolong life, creating overwhelming demands for health and rehabilitation services.

Diabetes, hypercholesterolemia, systemic arterial hypertension, smoking and obesity are considered to be traditional risk factors for cardiovascular disease (CVD). In Mexico, a high prevalence of CVD risk factors has been observed in the adult Mexican population, which could explain the higher frequency of total disability from CVD diseases and diabetes seen in our study.

In Mexico, 9% have type 2 DM[4] and 13% of the population (<40 years of age) have early-onset of type 2 DM.[5] In our study, DM was one of the major causes of disability. Diabetes increases the risk of disabling and life-threatening complications due to microvascular disease (affecting the kidneys, eyes and limbs) and macrovascular disease (involving the coronary, cerebrovascular and peripheral vascular systems).

It is essential to maintain integrated preventive health programs for the entire population with the aim of identifying health risk factors in a timely manner, thus avoiding complications that are ultimately responsible for some disabling conditions.

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Table II
DISABILITY CAUSES IN HEALTH PERSONNEL AND IN PERSONS INSURED BY THE IMSS, BY GENDER. MEXICO, 2005-2011

Disorders, n (%)	Gender Female n= 379	Male n=245	p
Cardiovascular diseases	36 (9.5)	49 (20.0)	0.0001
Disability due to diabetes mellitus chronic complications	42 (11.1)	41 (16.7)	0.004
Cervical/lumbar spine herniated disk	53 (14.0)	24 (9.8)	0.12
Rheumatic diseases	50 (13.2)	16 (6.5)	0.008
Neurologic diseases	31 (8.2)	22 (9.0)	0.72
Psychiatric disorders	17 (4.5)	19 (7.8)	0.08
Musculoskeletal	28 (7.4)	16 (6.5)	0.69

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Association between perceived mental stress and physical activity in elderly Korean people

To the editor: Korea has experienced rapid socio-economic growth over the past several decades and also one of the highest growth rates in the world. The proportion of the elderly population aged over 65 years will increase dramatically from 7.2% in 2000 to 20.8% in 2020. The growth of the elderly population in Korean society threatens its national health.[1]

Higher levels of stress can lead to a series of negative consequences such as depression and suicide.[2] Physically active people are not only less sensitive to negative influences of daily stress, but are also less responsive to physical stress.[3] Among stress-coping activities, physical activity (PA) has been shown to be beneficial to both physical and mental health and has been regarded as an effective method to prevent stress-related diseases.[4] Thus, helping elderly people who do not have established patterns of PA to acquire healthy habits for increasing PA is useful in terms of public health.

This study used national data from the fifth Korea National Health and Nutrition Survey (KNHANES-V) in 2010 and 2011 to investigate whether the level of PA is associated with perceived mental stress (PMS) status in elderly Korean people. KNHANES-V was conducted using a systematic stratified cluster sampling design. 2 837 elderly people aged over 65 years were selected for this study sample.

Participants were asked to rate their PMS status as very high, high, low, and none. Questions of PA information were compared with the guidelines of the American College of Sports Medicine.[5] Information regarding the gender, age, education, family socio-economic status, and marital status of each participant was collected as confounding factors during interviews.

Males show higher levels of education, family socio-economic status, married status, and positive PMS status compared to females. Participation ratios of vigorous, moderate, and low PA significantly declined with age in both males and females (table I). The crude odds ratios (COR)

Table I
CHARACTERISTICS OF ELDERLY KOREAN PEOPLE

Characteristics	Males (n= 1 233)	Females (n= 1 604)	Total (n= 2 837)	X^2 value	p value
Age (years)					
65-74	863 (70.0)	1 060 (66.1)	1 923 (67.8)	5.572	.062
75-84	340 (27.6)	491 (30.6)	831 (29.3)		
85 ≤	30 (2.4)	53 (3.3)	83 (2.9)		
Education					
< elementary school	582 (47.2)	1 342 (83.6)	1 924 (67.8)	459.276	<.001
Elementary school	205 (16.6)	127 (7.9)	332 (11.7)		
Middle school	284 (23.0)	116 (7.3)	400 (14.1)		
High school ≤	162 (13.1)	19 (1.2)	181 (6.4)		
Family socio-economic status					
Low	594 (48.6)	891 (56.4)	1 485 (53.0)	19.125	<.001
Average	330 (27.0)	336 (21.3)	666 (23.6)		
Middle high	170 (13.9)	192 (12.2)	362 (12.9)		
High	127 (10.4)	160 (10.1)	287 (10.3)		
Marital status					
Married	1 121 (90.9)	779 (48.6)	1 900 (67.0)	590.916	<.001
Separated	7 (0.6)	13 (0.8)	20 (0.7)		
Widowed	87 (7.1)	782 (48.7)	869 (30.6)		
Divorced	18 (1.5)	30 (1.9)	48 (1.7)		
Perceived mental stress					
Very high	22 (1.8)	84 (5.2)	106 (3.8)	89.423	<.001
High	141 (11.4)	373 (23.3)	514 (18.1)		
Low	642 (52.1)	685 (42.7)	1 327 (46.8)		
None	428 (34.7)	462 (28.8)	890 (31.4)		
Physical activity participation					
Vigorous activity*	181 (14.7)	168 (10.8)	349 (12.3)	75.013	<.001
Moderate activity‡	166 (13.7)	372 (23.2)	538 (19.0)		
Low activity§	952 (77.2)	1 021 (63.7)	1 973 (70.0)		

Data is presented as n (%)
* 20 minutes vigorous physical activity ≥ three times/week
‡ 30 minutes moderate physical activity ≥ five times/week
§ 30 minutes walking ≥ five times/week