



SOCIETÀ ITALIANA
DI GERONTOLOGIA
E GERIATRIA

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NAPOLI 26-27 Novembre 2015



***FRAGILITÀ, DISABILITÀ E MALATTIE
NELLO STUDIO PRO.V.A.***

Enzo Manzato (Padova)

PROGETTO PER L'ATTIVAZIONE DI DUE CENTRI DI VALUTAZIONE GERIATRICA DA PARTE DELLA FONDAZIONE CASSA DI RISPARMIO DI PADOVA E ROVIGO

1. PREMESSE

Da un punto di vista demografico l'Italia, come gran parte dei Paesi industrializzati, è caratterizzata da bassa fertilità e da bassa mortalità. La percentuale di soggetti anziani (oltre i 65+ anni di età), che nel 1961 costituiva meno del 10% della intera popolazione italiana, era già salita al 13% nel 1981 e, secondo le stime più recenti, raggiungerà il 20% nel 2021 (Golini 1992). Alla luce di queste considerazioni non sorprende se, nella decade 1980-1990, l'indice di invecchiamento della popolazione, definito quale rapporto tra il numero di persone di 65+ anni per 100 persone di 0-14 anni, è passato da 60,2 a 91,2. Oltre a ciò, nello stesso gruppo di anziani, la percentuale di persone con 80+ anni passerà, fra il 1988 e il 2018, dal 14 al 23%. Questo "invecchiamento dei vecchi" visto il maggior rischio di malattie croniche e di invalidità dei "più anziani tra gli anziani" comporta, da un punto di vista socio-sanitario, un inevitabile e sostanziale aumento dei bisogni.

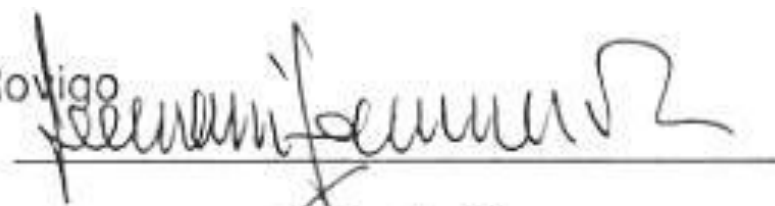
4. OBIETTIVI DEL PROGETTO

Scopo del progetto di studio da noi proposto è la valutazione della disabilità in un campione rappresentativo della popolazione anziana, identificato fra i residenti nelle aree territoriali corrispondenti alle U.L.S.S. 20 di Camposampiero e 30 di Rovigo. Oltre alla disabilità la ricerca si propone l'identificazione multidimensionale dei fattori di rischio (biomedici, sociali ed economici) che determinano la perdita di autonomia ed influenzano la progressione della disabilità. I risultati permetteranno una miglior definizione del fenomeno nonché la possibilità di attuare interventi di prevenzione secondaria e terziaria onde impedire la progressione della disabilità verso una totale dipendenza.

CONVENZIONE

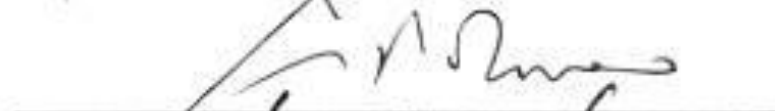
Fondazione Cassa di Risparmio di Padova e Rovigo

Il Presidente



Università degli Studi di Padova

Il Rettore



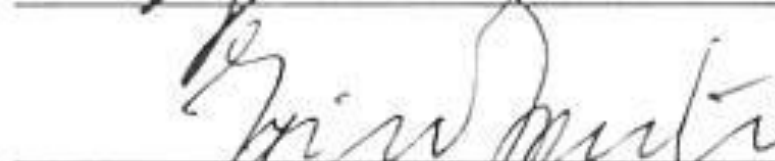
Unità Locale Socio Sanitaria N. 20

L'Amministratore Straordinario



Unità Locale Socio Sanitaria N. 30

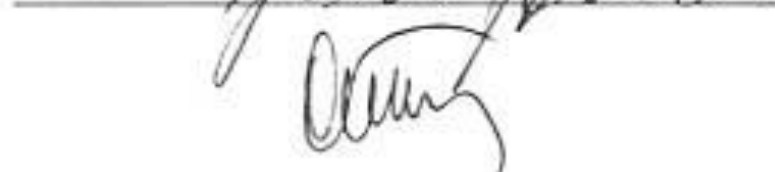
Il Commissario Straordinario



Università degli Studi di Padova

Il Direttore Amministrativo

Dott. Dino Arimann



The Effect of Cardiovascular and Osteoarticular Diseases on Disability in Older Italian Men and Women: Rationale, Design, and Sample Characteristics of the Progetto Veneto Anziani (PRO.V.A.) Study

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The Effect of Cardiovascular and Osteoarticular Diseases on Disability in Older Italian Men and Women: Rationale, Design, and Sample Characteristics of the Progetto Veneto Anziani (PRO.V.A.) Study

Table 1. Distribution of Population Aged 65 and Older in Study Sites, Distribution of Targeted Sample, and Actual Distribution of Sample

Population	Camposampiero			Rovigo		
	65–74	75–84	≥85	65–74	75–84	≥85
Total ≥65 population distribution, n (%)						
Men	3,425 (63)	1,576 (29)	435 (8)	4,698 (67)	1,779 (26)	509 (7)
Women	4,772 (53)	2,676 (32)	1,338 (16)	6,223 (57)	3,302 (30)	1,356 (13)
Targeted sample distribution, %	45	35	20	45	35	20
Actual sample						
Alive and living in the area, n						
Men	360	263	187	361	273	156
Women	588	469	258	703	546	312
Participating in the study (N = 3,099), n						
Men (n = 1,245)	282	198	138	289	210	128
Women (n = 1,854)	452	359	170	417	296	160
Distribution of study participants, %						
Men	46	32	22	46	34	20
Women	46	37	17	48	34	18

The Effects of Weight Changes After Middle Age on the Rate of Disability in an Elderly Population Sample

Odds Ratios for Activity of Daily Living Disability According to Weight Change Between Age 50 and Baseline

Weight Change	Odds Ratio (95% Confidence Interval)		P-Value	
	Model 1		Model 2	
Normal weight at age 50				
Weight gain >10%	1.61 (1.37–1.90)	<.001	1.49 (1.25–1.77)	<.001
Weight gain 5–10%	1.46 (1.17–1.83)	.001	1.55 (1.23–1.96)	<.001
Weight stable (± 5%)	1.00		1.00	
Weight loss 5–10%	1.15 (0.87–1.53)	.34	0.94 (0.69–1.26)	.67
Weight loss >10%	1.38 (1.05–1.81)	.02	1.30 (0.98–1.74)	.07
Overweight at age 50				
Weight gain >10%	1.63 (1.43–1.86)	<.001	1.71 (1.49–1.98)	<.001
Weight gain 5–10%	0.88 (0.73–1.06)	.18	0.88 (0.73–1.08)	.22
Weight stable (± 5%)	1.00		1.00	
Weight loss 5–10%	1.20 (1.00–1.44)	.049	1.36 (1.12–1.65)	.002
Weight loss >10%	1.39 (1.18–1.64)	<.001	1.28 (1.08–1.52)	.005
Obese at age 50				
Weight gain >10%	2.59 (2.07–3.26)	<.001	2.59 (2.02–3.31)	<.001
Weight gain 5–10%	1.65 (1.21–2.25)	.001	2.41 (1.72–3.38)	<.001
Weight stable (± 5%)	1.00		1.00	
Weight loss 5–10%	0.99 (0.77–1.27)	.92	0.99 (0.76–1.30)	.94
Weight loss >10%	1.20 (0.99–1.45)	.06	1.11 (0.90–1.36)	.34

The Effects of Weight Changes After Middle Age on the Rate of Disability in an Elderly Population Sample

Luca Busetto, MD, Giovanna Romanato, MD,† Sabina Zambon, MD,* Elisa Calò, MD,*
Silvia Zanoni, MD,* Maria Chiara Corti, MD,‡ Giovannella Baggio, MD,§ Giuliano Enzi, MD,*
Gaetano Crepaldi, MD,† and Enzo Manzato, MD*†*

CONCLUSION: Weight gain after middle age was associated with late disability, particularly in participants who were already obese.

OBESITY, MUSCULAR STRENGTH, MUSCLE COMPOSITION AND PHYSICAL PERFORMANCE IN AN ELDERLY POPULATION

Multivariate logistic regression analyses for the association of low physical performance with BMI classes (weighted data)

BMI classes	Odds Ratio (95% Confidence Interval) p-value	
	Model 1*	Model 2**
< 18.5	1.859 (1.402-2.465) <.001	1.729 (1.263-2.369) .001
18.5 – 24.9	1.000	1.000
25.0 - 29.9	1.051 (0.980-1.128) .165	1.152 (1.065-1.246) <.001
30.0 - 34.9	1.442 (1.328-1.566) <.001	1.620 (1.478-1.776) <.001
35.0 - 39.9	3.084 (2.703-3.520) <.001	3.329 (2.874-3.857) <.001
>40.0	4.091 (3.302-5.070) <.001	3.997 (3.165-5.048) .001

adjusted for sex, age, education, income, smoke habit, physical activity, and comorbidities (angina, myocardial infarction, heart failure, peripheral artery disease, stroke, arterial hypertension, chronic kidney disease, diabetes, cognitive impairment, chronic obstructive pulmonary disease, cancer, osteoporosis, osteoarticular diseases including osteoarthritis of hands, hips or knees, and hip fracture). **adjusted for variables in Model 1 plus knee extensor (quadriceps) muscular strength.

OBESITY, MUSCULAR STRENGTH, MUSCLE COMPOSITION AND PHYSICAL PERFORMANCE IN AN ELDERLY POPULATION

Multivariate linear regression analyses for the association of physical performance (SPPB score) and each MRI parameters (weighted data)

	Standardized Beta-Coefficient*	95% Confidence Interval	p-value
TFA	-0.114	-0.004 / -0.002	<.001
VFA	-0.144	-0.008 / -0.005	<.001
SFA	0.041	0.000 / 0.003	.067
TMA	0.031	0.000 / 0.019	.044
FFMA	0.094	0.021 / 0.041	<.001
IMFA	-0.071	-0.042 / -0.017	<.001

TFA: Total fat Area; VFA: Visceral Fat Area; SFA: Subcutaneous Fat Area; TMA: Total Muscular Area; FFMA: Fat-Free Muscular Area; IMFA: Intra-Muscular Fat Area; *Model adjusted for age, sex and BMI as continuous variable.

OBESITY, MUSCULAR STRENGTH, MUSCLE COMPOSITION AND PHYSICAL PERFORMANCE IN AN ELDERLY POPULATION

F. DE STEFANO, S. ZAMBON, L. GIACOMETTI, G. SERGI, M.C. CORTI,
E. MANZATO, L. BUSETTO

Conclusion:

A poor physical performance was observed in overweight and obese elderly subjects.

Leg strength was reduced only in subjects with severe obesity.

Physical performance was negatively influenced by the degree of fat infiltration in skeletal muscle.

The impact of knee and hip chondrocalcinosis on disability in older people: the ProVA Study from northeastern Italy

Item	Chondrocalcinosis (%)	No chondrocalcinosis (%)	p value	RFS and age-adjusted OR	95% CI
	N= 169	N= 1460			
Self-reported disability					
Personal care					
Rising from bed/chair	27.2	13.6	<0.0001	1.21	0.71 to 2.06
Bathing	36.1	21.3	<0.0001	1.10	0.67 to 1.80
Dressing	25.4	15.3	0.0007	1.14	0.68 to 1.93
Toilet using	17.2	6.4	<0.0001	1.84	1.00 to 3.50
Indoor mobility					
Transferring	19.5	10.5	0.0004	1.22	0.68 to 2.21
Need of					
Cane	19.5	10.6	0.0006	1.90	1.11 to 3.24
Wheel chair	0.6	1.2	NA	NA	NA
Sustain (any type)	16.6	9.9	0.007	0.97	0.53 to 1.78
Furniture for support	24.3	13.1	0.0001	1.34	0.47 to 2.25
Outdoor mobility and housekeeping (never engaged in)					
Walking > 1/2 mile	55.6	39.6	<0.0001	2.09	1.08 to 4.03
Bicycle > 1 km	59.2	45.6	0.0008	1.03	0.66 to 1.60
Gardening	55.6	42.2	0.0008	1.00	0.64 to 1.57
Total sedentaries*	34.9	18.5	<0.0001	1.43	0.87 to 2.35
Lifting 5 kg	42.6	29.3	0.0004	1.26	0.82 to 1.94
Going shopping	61.0	40.8	<0.0001	1.77	1.13 to 2.76
Heavy household chores	65.7	52.1	0.0008	1.16	0.76 to 1.80

The impact of knee and hip chondrocalcinosis on disability in older people: the ProVA Study from northeastern Italy

Item	Chondrocalcinosis (%)	No chondrocalcinosis (%)	p value	RFS and age-adjusted OR	95% CI
	N= 169	N= 1460			
Performance					
Lower extremity function					
Side-by-side test no	14.4	8.5	0.01	1.46	0.82 to 2.57
Semitandem test no	17.7	9.4	0.02	1.42	0.76 to 2.69
Tandem test no	40.3	30.3	0.02	0.96	0.56 to 1.62
Walking speed <0.57 m/s†	33.8	22.9	<0.0001	1.39	0.93 to 2.08
Rising from a chair five times no	11.7	4.7	0.0005	2.18	1.09 to 4.38
Climbing stairs (difficulty)	45.0	31.1	<0.0001	1.13	0.72 to 1.77
Summary performance score >9‡	22.4	42.9	<0.0001	0.67	0.39 to 1.16

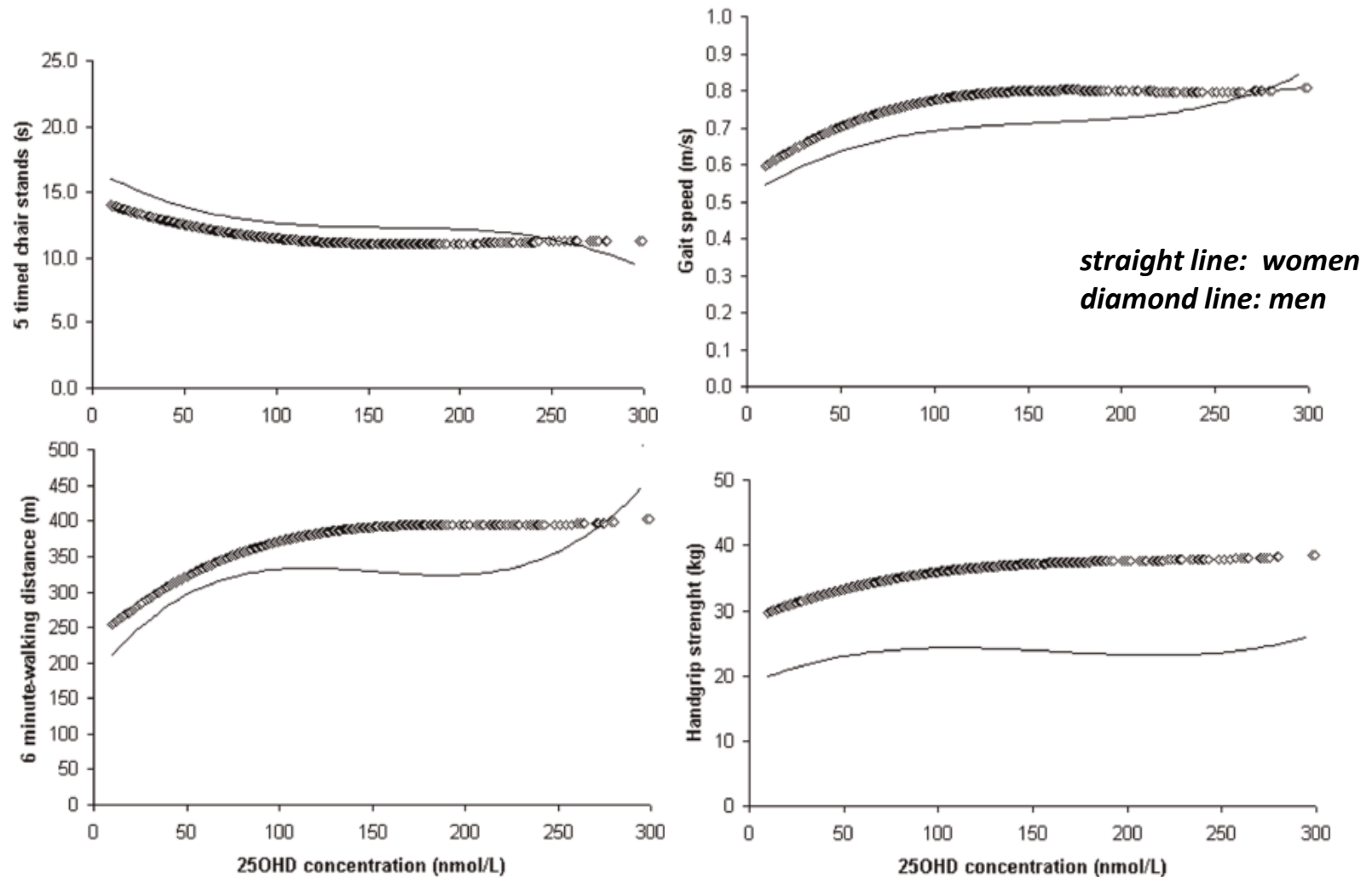
The impact of knee and hip chondrocalcinosis on disability in older people: the ProVA Study from northeastern Italy

Estella Musacchio,¹ Roberta Ramonda,² Egle Perissinotto,³ Leonardo Sartori,¹
Rosemarie Hirsch,⁴ Leonardo Punzi,² Sabina Zambon,¹ Maria Chiara Corti,⁵
Giovannella Baggio,⁶ Enzo Manzato,^{7,8} Andrea Doria,² Gaetano Crepaldi⁸

Conclusions Pain and physical function are the outcome measures of choice for assessing disability in osteoarthritis patients. The presence of chondrocalcinosis contributes to both, independently of age and osteoarthritis severity, thus compromising the quality of life and worsening comorbidity.

Vitamin D and Physical Performance in Elderly Subjects: The Pro.V.A Study

Loess regression plots



Vitamin D and Physical Performance in Elderly Subjects: The Pro.V.A Study

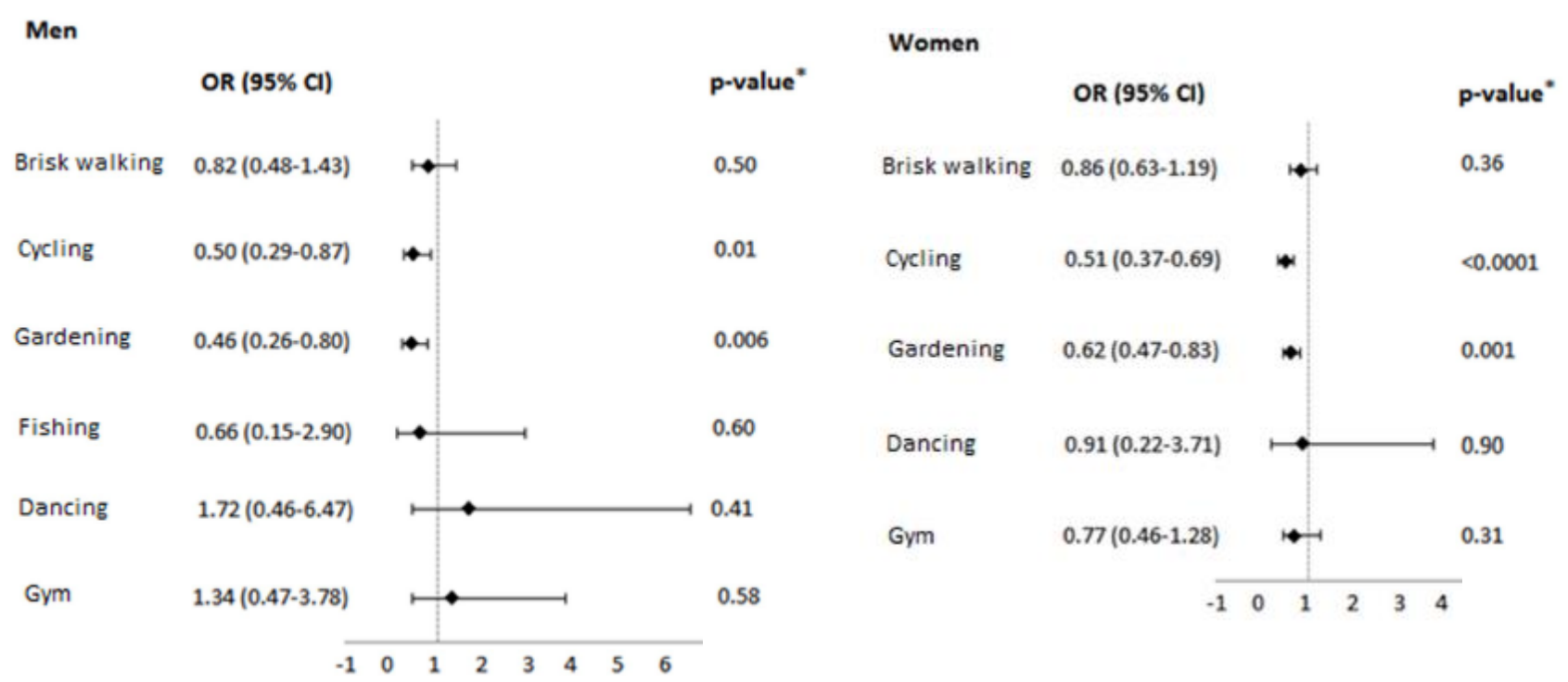
Elena D. Toffanello^{1*}, Egle Perissinotto², Giuseppe Sergi¹, Sabina Zambon^{3,4}, Estella Musacchio³, Stefania Maggi⁴, Alessandra Coin¹, Leonardo Sartori³, Maria-Chiara Corti⁵, Giovannella Baggio⁶, Gaetano Crepaldi⁴, Enzo Manzato^{1,4}

Conclusion: lower 25OHD levels are associated with a worse coordination and weaker strength in women, a slower walking time and a lower upper limb strength in men, and a weaker aerobic capacity in both genders.

For optimal physical performances, 25OHD concentrations of 100 nmol/L appear to be more advantageous in elderly men and women, and vitamin D supplementation should be encouraged to maintain their 25OHD levels as high as this threshold.

Vitamin D Deficiency and Leisure Time Activities in the Elderly: Are All Pastimes the Same?

Results of logistic regression analysis for significant independent factors associated with vitamin D deficiency



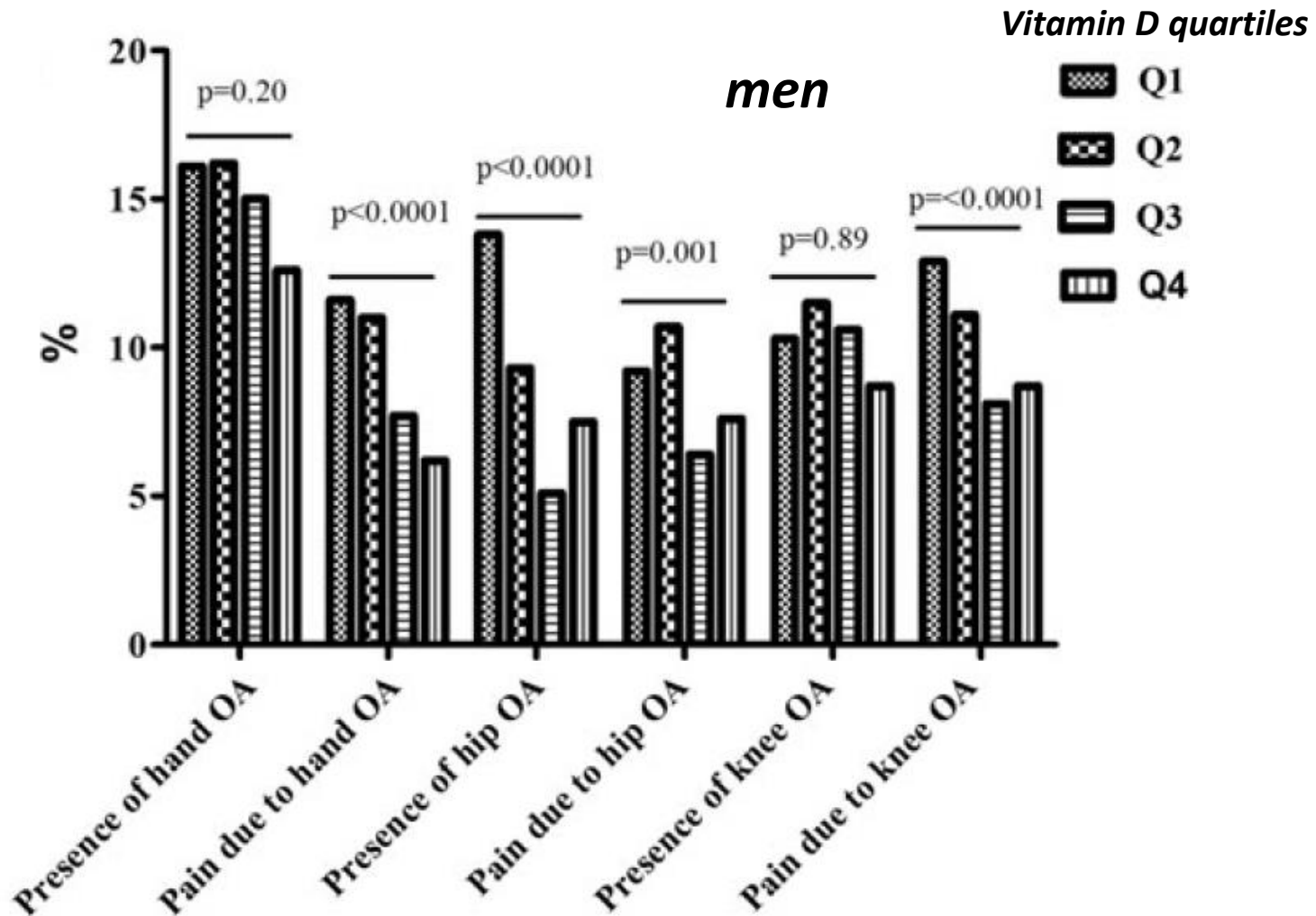
Vitamin D Deficiency and Leisure Time Activities in the Elderly: Are All Pastimes the Same?

Marina De Rui^{1*}, Elena Debora Toffanello¹, Nicola Veronese¹, Sabina Zambon², Francesco Bolzetta¹, Leonardo Sartori², Estella Musacchio², Maria Chiara Corti³, Giovannella Baggio⁴, Gaetano Crepaldi⁵, Egle Perissinotto⁶, Enzo Manzato^{1,5}, Giuseppe Sergi¹

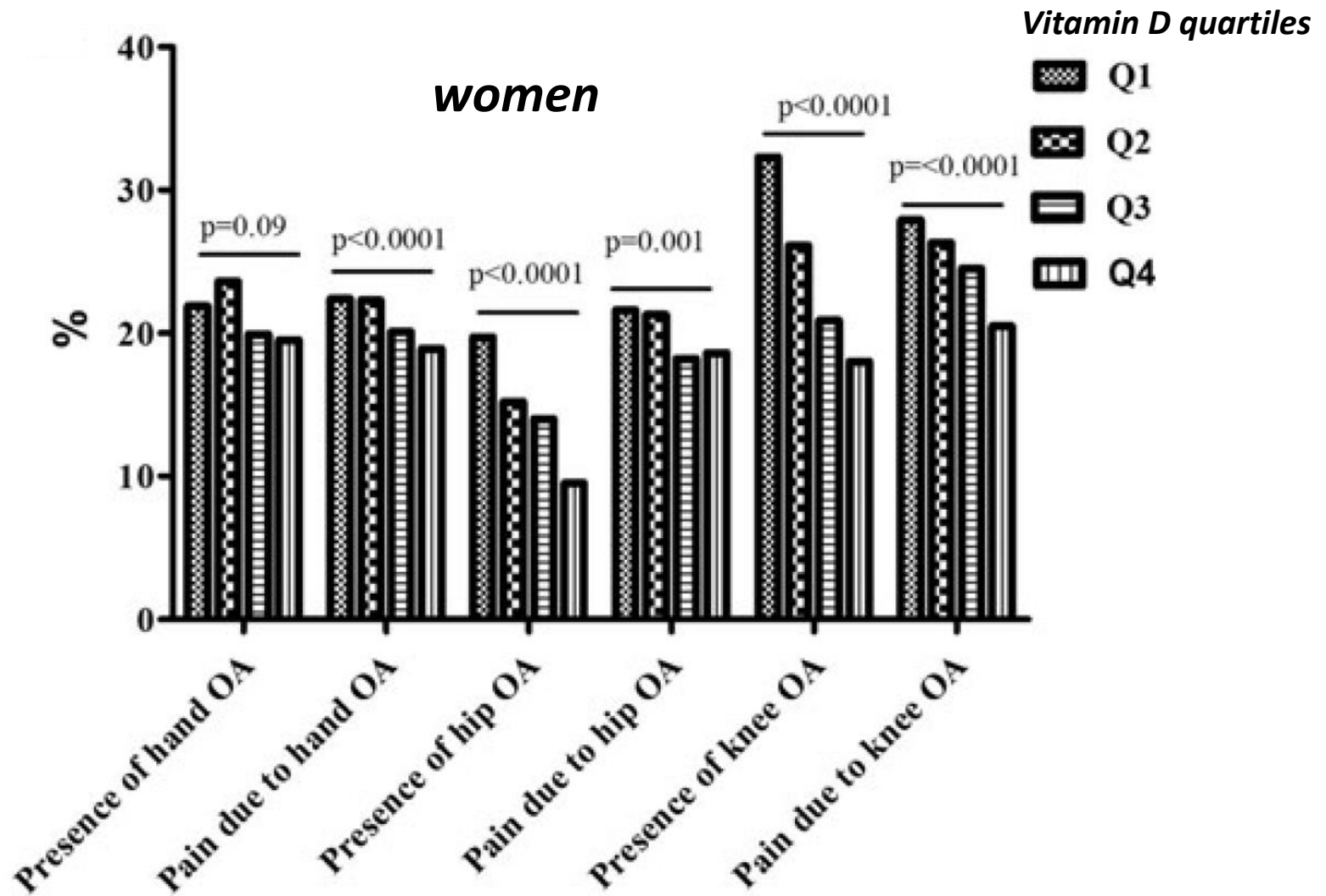
Conclusions:

Regular cycling and gardening reduce the likelihood of inadequate vitamin D status in Caucasian elderly people, irrespective of their age, BMI and comorbidities, and of the season of the year.

Serum 25-Hydroxyvitamin D and Osteoarthritis in Older People: The Progetto Veneto Anziani Study



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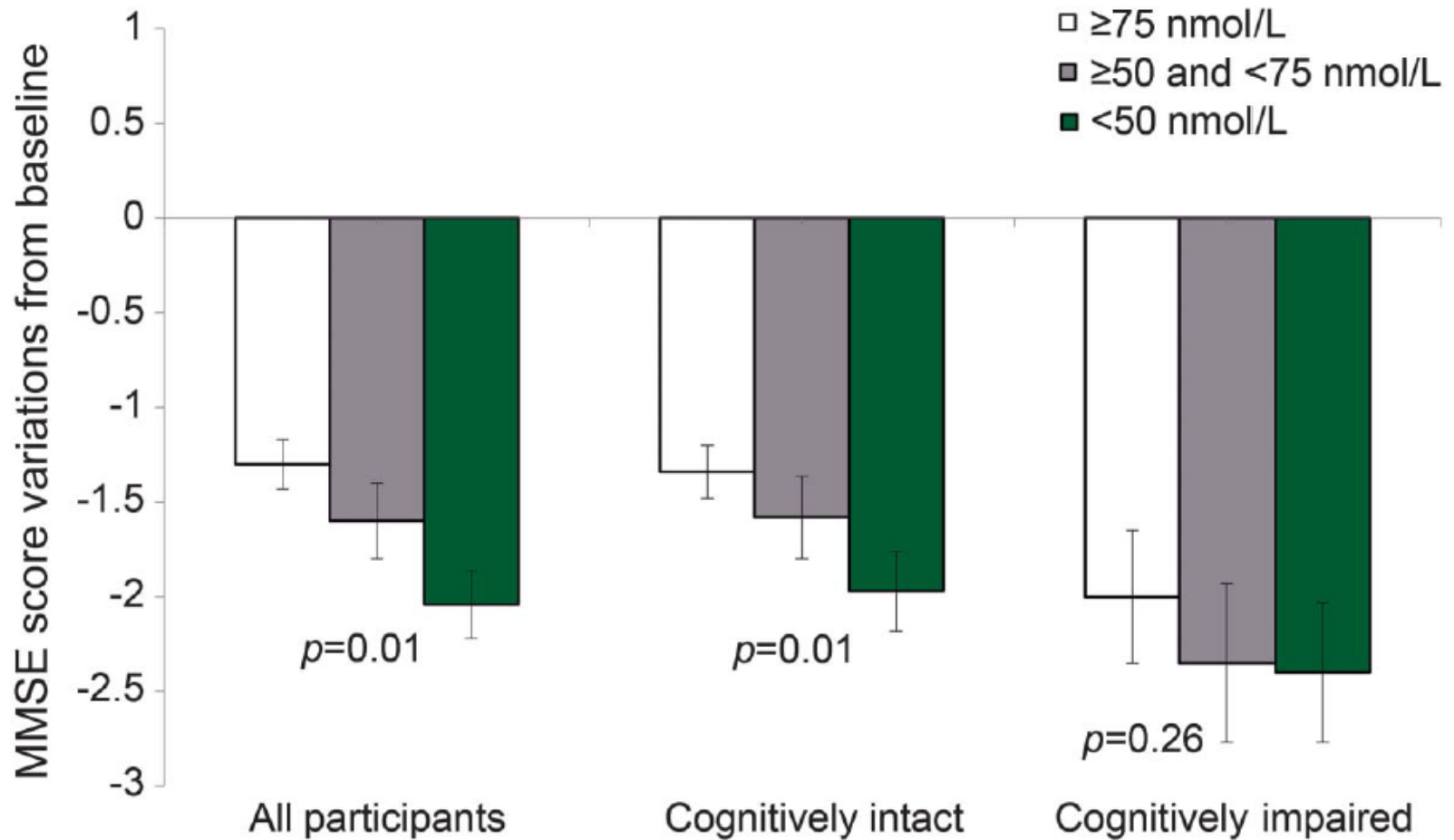
Nicola Veronese,¹ Stefania Maggi,² Marianna Noale,² Marina De Rui,¹ Francesco Bolzetta,¹
Sabina Zambon,^{2,3} Maria Chiara Corti,⁴ Leonardo Sartori,³ Estella Musacchio,³ Giovannella Baggio,⁵
Egle Perissinotto,⁶ Gaetano Crepaldi,² Enzo Manzato,^{1,2} and Giuseppe Sergi¹

In conclusion, low 25OHD levels are associated with the presence of osteoarthritis and with osteoarthritis-related pain, particularly when the hand and hip are involved.

Vitamin D deficiency predicts cognitive decline in older men and women

The Pro.V.A. Study

Changes in MMSE scores over the follow-up according to 25OHD levels



Vitamin D deficiency predicts cognitive decline in older men and women

The Pro.V.A. Study

Elena D. Toffanello, MD, Alessandra Coin, MD, Egle Perissinotto, ScD, Sabina Zambon, MD, Silvia Sarti, MD, Nicola Veronese, MD, Marina De Rui, MD, Francesco Bolzetta, MD, Maria-Chiara Corti, MD, MSH, Gaetano Crepaldi, MD, Enzo Manzato, MD, Giuseppe Sergi, MD

Conclusion:

The results of our study support an independent association between low 25OHD levels and cognitive decline in elderly individuals.

In cognitively intact elderly subjects, 25OHD levels below 75 nmol/L are already predictive of global cognitive dysfunction at 4.4 years.

Serum 25-Hydroxyvitamin D and the Onset of Late-Life Depressive Mood in Older Men and Women: The Pro.V.A. Study

Elena D. Toffanello,¹ Giuseppe Sergi,¹ Nicola Veronese,¹ Egle Perissinotto,²
Sabina Zambon,^{3,4} Alessandra Coin,¹ Leonardo Sartori,³ Estella Musacchio,³
Maria-Chiara Corti,⁵ Giovannella Baggio,⁶ Gaetano Crepaldi,⁴ and Enzo Manzato^{1,4}

Conclusion

*Although an independent inverse association between 25OHD levels and GDS scores emerged for women on cross-sectional analysis, vitamin D deficiency showed **no** direct effect on the onset of late-life depressive symptoms in our prospectively studied population.*

Serum Dehydroepiandrosterone Sulfate and Incident Depression in the Elderly: The Pro.V.A. Study

*Nicola Veronese, M.D., Marina De Rui, M.D., Francesco Bolzetta, M.D.,
Sabina Zambon, M.D., Maria Chiara Corti, M.D., Giovannella Baggio, M.D.,
Elena Debora Toffanello, M.D., Gaetano Crepaldi, M.D., Egle Perissinotto, Sc.D.,
Enzo Manzato, M.D., Giuseppe Sergi, M.D.*

Conclusion:

Higher serum DHEAS levels were found to be significantly protective for the onset of depression irrespective of gender, whereas only in men was this association found also for incident severe depression.

Serum 25-Hydroxyvitamin D and the Incidence of Peripheral Artery Disease in the Elderly: The Pro.V.A Study

Nicola Veronese¹, Marina De Rui¹, Francesco Bolzetta¹, Elena Debora Toffanello¹, Alessandra Coin¹, Sabina Zambon^{2,3}, Maria Chiara Corti⁴, Giovannella Baggio⁵, Egle Perissinotto⁶, Stefania Maggi³, Gaetano Crepaldi³, Enzo Manzato^{1,3} and Giuseppe Sergi¹

Conclusions:

*Baseline hypovitaminosis D **did not** predict the onset of peripheral artery disease over a 4.4-year follow-up in elderly people.*

Serum 25-Hydroxyvitamin D and Incidence of Diabetes in Elderly People: The PRO.V.A. Study

Nicola Veronese, Giuseppe Sergi, Marina De Rui, Francesco Bolzetta, Elena Debora Toffanello, Sabina Zambon, Maria-Chiara Corti, Leonardo Sartori, Estella Musacchio, Giovannella Baggio, Gaetano Crepaldi, Egle Perissinotto, and Enzo Manzato

Conclusion:

*Baseline serum concentrations of 25OHD were **not** associated with the incidence of diabetes in community-dwelling elderly people over a follow-up of 4.4 years.*

Serum 25-Hydroxyvitamin D and Orthostatic Hypotension in Old People

The Pro.V.A. Study

Nicola Veronese, Francesco Bolzetta, Marina De Rui, Sabina Zambon, Maria-Chiara Corti, Estella Musacchio, Giovannella Baggio, Gaetano Crepaldi, Egle Perissinotto, Enzo Manzato, Giuseppe Sergi

In conclusion, vitamin D is **not** significantly associated with any orthostatic hypotension in older people.

Orthostatic Changes in Blood Pressure and Mortality in the Elderly: The Pro.V.A Study

Association between changes in orthostatic blood pressure and mortality

	No. of events	No. of people	Incidence rate (per 1,000 person- years) (95% CI)	Unadjusted hazard ratio (95% CI)	P value	Fully adjusted model (HR with 95% CI)	P value
All-cause mortality							
Normal change	431	1,981	51 (29–73)	1 [reference]		1 [reference]	
Orthostatic hypotension	83	261	81 (33–129)	1.56 (1.22–1.99)	<0.0001	1.13 (0.88–1.45)	0.35
Orthostatic hypertension	126	544	54 (12–96)	1.05 (0.85–1.28)	0.37	1.23 (1.02–1.39)	0.03
CVD mortality							
Normal change	137	1,981	16 (0–32)	1 [reference]		1 [reference]	
Orthostatic hypotension	26	261	25 (0–78)	1.52 (0.91–2.23)	0.13	0.94 (0.59–1.49)	0.79
Orthostatic hypertension	45	544	19 (0–52)	1.14 (0.80–1.61)	0.47	1.41 (1.08–1.74)	0.02
Non-CVD mortality							
Normal change	294	1,981	35 (14–56)	1 [reference]		1 [reference]	
Orthostatic hypotension	57	261	56 (0–116)	1.62 (1.21–2.17)	0.001	1.19 (1.01–1.60)	0.047
Orthostatic hypertension	81	544	35 (0–75)	1.00 (0.78–1.29)	0.99	1.08 (0.84–1.40)	0.54

Orthostatic Changes in Blood Pressure and Mortality in the Elderly: The Pro.V.A Study

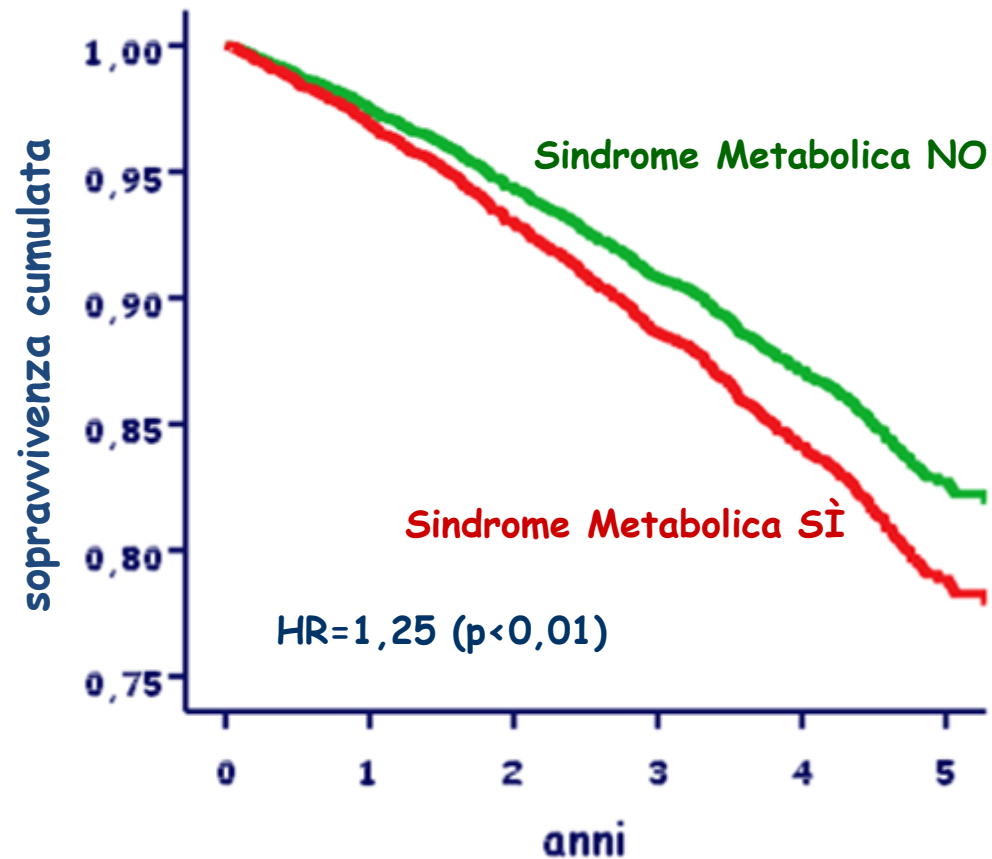
Nicola Veronese,¹ Marina De Rui,¹ Francesco Bolzetta,¹ Sabina Zambon,^{2,3}
Maria Chiara Corti,⁴ Giovannella Baggio,⁵ Elena Debora Toffanello,¹ Stefania Maggi,³
Gaetano Crepaldi,³ Egle Perissinotto,⁶ Enzo Manzato,^{1,3} and Giuseppe Sergi¹

CONCLUSIONS

Orthostatic hypertension and hypotension both seem to be relevant risk factors for mortality in the elderly, orthostatic hypertension correlating with all-cause and CVD-related mortality and orthostatic hypotension with non-CVD mortality.

Metabolic Syndrome and All-Cause and Cardiovascular Mortality in an Italian Elderly Population

The Progetto Veneto Anziani (Pro.V.A.) Study



Metabolic Syndrome and All-Cause and Cardiovascular Mortality in an Italian Elderly Population

The Progetto Veneto Anziani (Pro.V.A.) Study

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GIOVANNELLA BAGGIO, MD³

GAETANO CREPALDI, MD²

ENZO MANZATO, MD^{1,2}

CONCLUSIONS:

In this general Italian elderly population, among metabolic syndrome components, all-cause mortality is better predicted by **high glucose** in all subjects and in women and by **low HDL cholesterol** in women, whereas cardiovascular mortality is better predicted by **high glucose** and **low HDL cholesterol** in women.

Association of single measurement of estimated glomerular filtration rate and non-quantitative dipstick proteinuria with all-cause and cardiovascular mortality in the elderly. Results from the *Progetto Veneto Anziani* (Pro.V.A.) Study

Cardiovascular mortality associated with eGFR in overall subjects

Overall		
	HR (95% CI)	p-value
eGFR		
Model		
Unadjusted	1.97 (1.37–2.83)	<0.01
Adjusted for age and sex	1.33 (0.91–1.95)	0.14
Full model ^b	1.68 (1.02–2.78)	0.04
Proteinuria		
Model		
Unadjusted	2.15 (1.47–3.16)	<0.01
Adjusted for age and sex	1.76 (1.20–2.59)	<0.01
Full model ^c	2.07 (1.31–3.27)	<0.01

Association of single measurement of estimated glomerular filtration rate and non-quantitative dipstick proteinuria with all-cause and cardiovascular mortality in the elderly. Results from the *Progetto Veneto Anziani* (Pro.V.A.) Study

Sabina Zambon^{a,b,*}, Stefania Maggi^b, Silvia Zanoni^{a,b}, Giovanna Romanato^b, Marianna Noale^b, Maria Chiara Corti^c, Leonardo Sartori^a, Estella Musacchio^a, Giovannella Baggio^c, Giuseppe Sergi^a, Gaetano Crepaldi^b, Enzo Manzato^{a,b}

Conclusion: In this general Italian elderly population proteinuria is an independent predictor of all-cause and cardiovascular mortality, while eGFR is not an independent predictor of all-cause mortality, and it is nominally significantly associated with cardiovascular mortality. However, mortality risk is higher in individuals with combined reduced eGFR and proteinuria.

Invited commentary

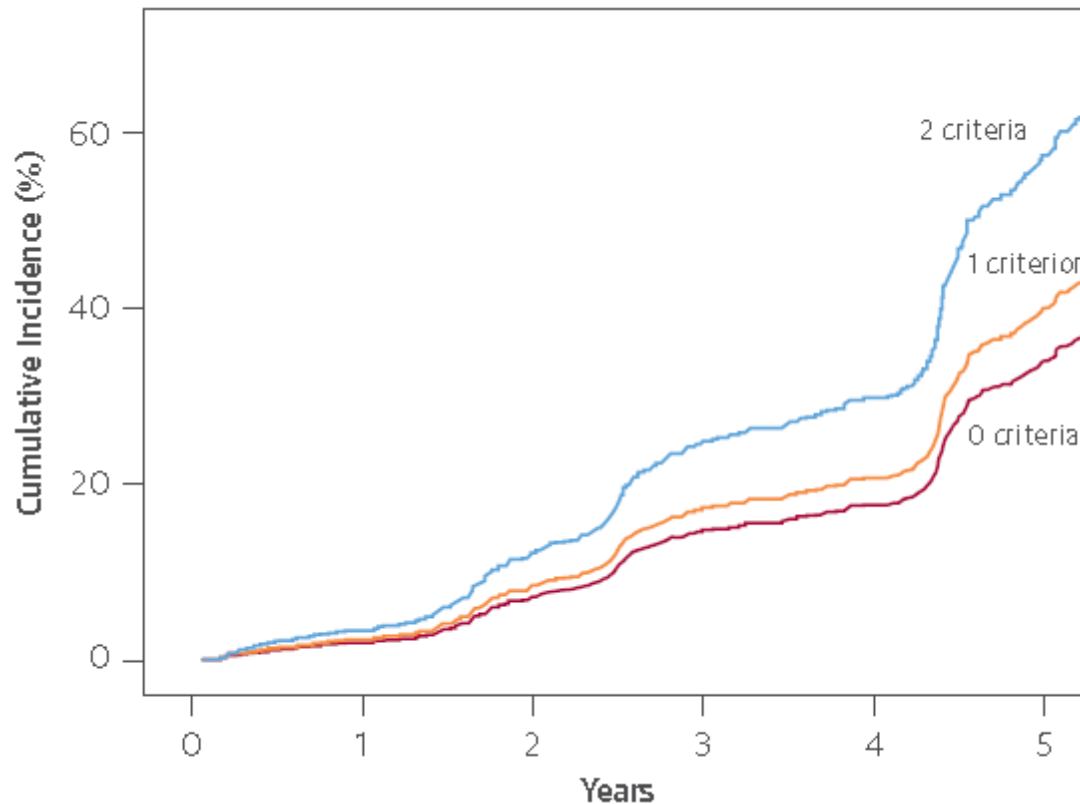
How healthy are your vessels? – Check your urine!

Carsten A. Böger^a, Florian Kronenberg^{b,*}

Pre-Frailty and Risk of Cardiovascular Disease in Elderly Men and Women

The Pro.V.A. Study

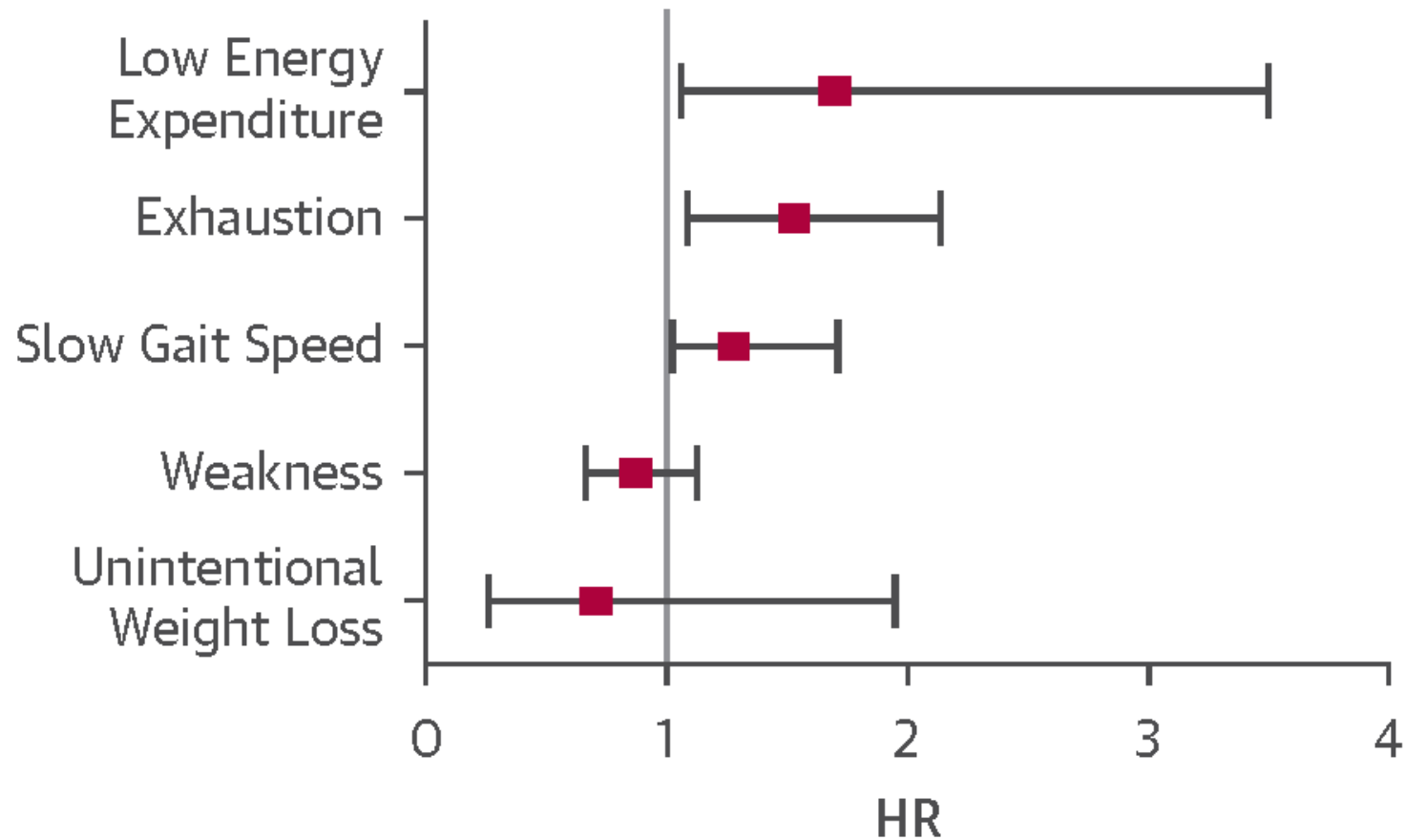
Cumulative Incidence of Cardiovascular Events



Pre-Frailty and Risk of Cardiovascular Disease in Elderly Men and Women

The Pro.V.A. Study

Risk of Cardiovascular Events



Pre-Frailty and Risk of Cardiovascular Disease in Elderly Men and Women

The Pro.V.A. Study

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CONCLUSIONS

Our findings suggest that pre-frailty, which is potentially reversible, is independently associated with a higher risk of older adults developing CVD. Among the physical domains of pre-frailty, low gait speed seems to be the best predictor of future CVD.

Which Came First, the Frailty or the Heart Disease?

Exploring the Vicious Cycle*

Kelsey Flint, MD

STUDY FUNDING

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White Matter Lesions and the Risk of Incident Hip Fracture in Older Persons

Results From the Progetto Veneto Anziani Study

Maria-Chiara Corti, MD, MHS; Giovannella Baggio, MD; Leonardo Sartori, MD; Gianmaria Barbato, MD; Enzo Manzato, MD; Estella Musacchio, PhD; Luigi Ferrucci, MD, PhD; Giulia Cardinali, PhD; Daniele Donato, MD; Lenore J. Launer, PhD; Sabina Zambon, MD; Gaetano Crepaldi, MD; Jack M. Guralnik, MD, PhD

...are attributed to cerebral microangiopathic changes...are particularly frequent in patients with cardiovascular risk factors such as hypertension and diabetes mellitus...

White Matter Lesions and the Risk of Incident Hip Fracture in Older Persons

Hazard Ratios (HRs) and 95% Confidence Intervals for Hip Fracture (HF) Stratified by Age Groups From Cox Proportional Hazards Regression Models

Brain MR Imaging Pattern	Age <80 y (n = 659)				
	Crude	Plus Age and Sex	Plus Osteoporosis	Plus Other Risk Factors ^b	Plus Variables in the Causal Pathway ^c
Diffuse WMLs	3.1 (1.2-7.9) <i>P</i> = .002	2.7 (1.0-6.9) <i>P</i> = .01	2.7 (1.0-6.9) <i>P</i> = .03	2.7 (1.1-7.1) <i>P</i> = .04	2.4 (0.9-7.1) <i>P</i> = .07
Focal lesions	1.9 (0.5-6.7)	2.1 (0.6-7.8)	2.3 (0.6-8.6)	2.0 (0.6-7.6)	2.1 (0.5-8.2)
No lesions	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]