L'Acadèmia
FUNDACIÓ ACADÈMIA DE CIÈNCIES MÈDIQUES I DE LA SALUT DE CATALUNYA I DE BALEARS

Com afecten les diferències de sexe i gènere a la farmacoteràpia?

Jesús Ruiz Ramos

Hospital Santa Creu i Sant Pau

INDICE

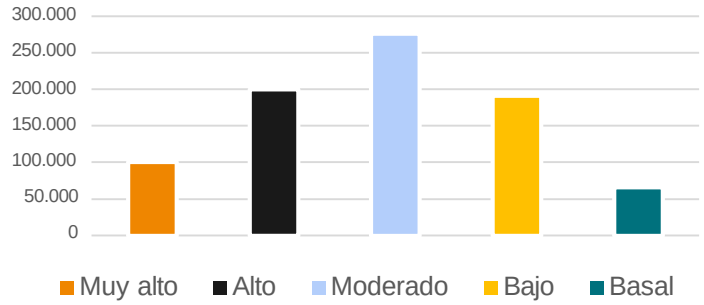
- Perspectiva de género en urgencias
- Problemas de salud por medicamentos
- Código medicamento: Hospital Sant Pau.
- Conclusiones

VARIABLE SEXO EN URGENCIAS

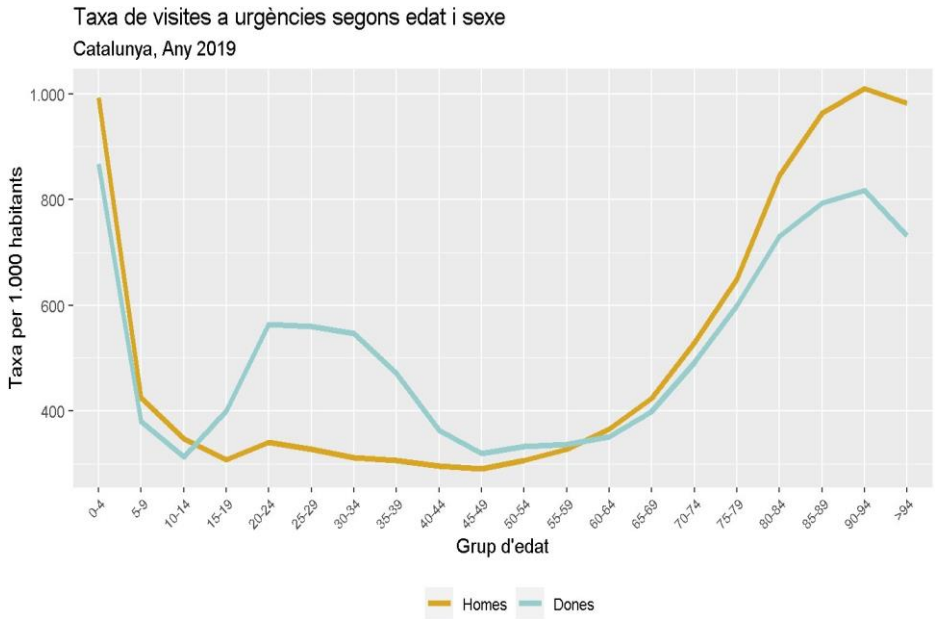
Consultas Urgencias Catalunya 2022

834.679
Vistas a Urgencias adultos

GMA



Tasa (1000 hab) visita Urgencias (Edad)



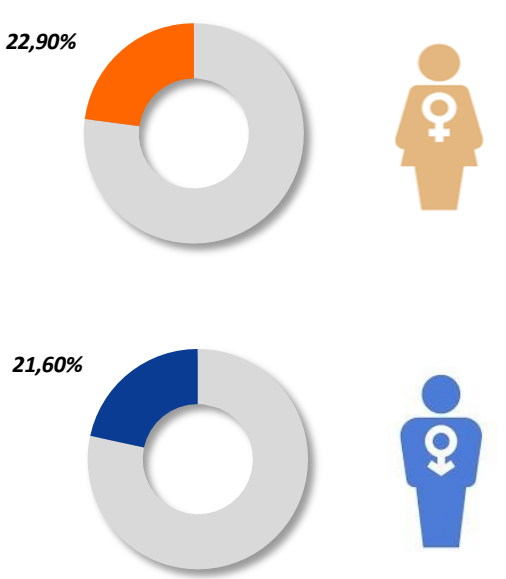
PROBLEMAS DE SALUD POR MEDICAMENTOS

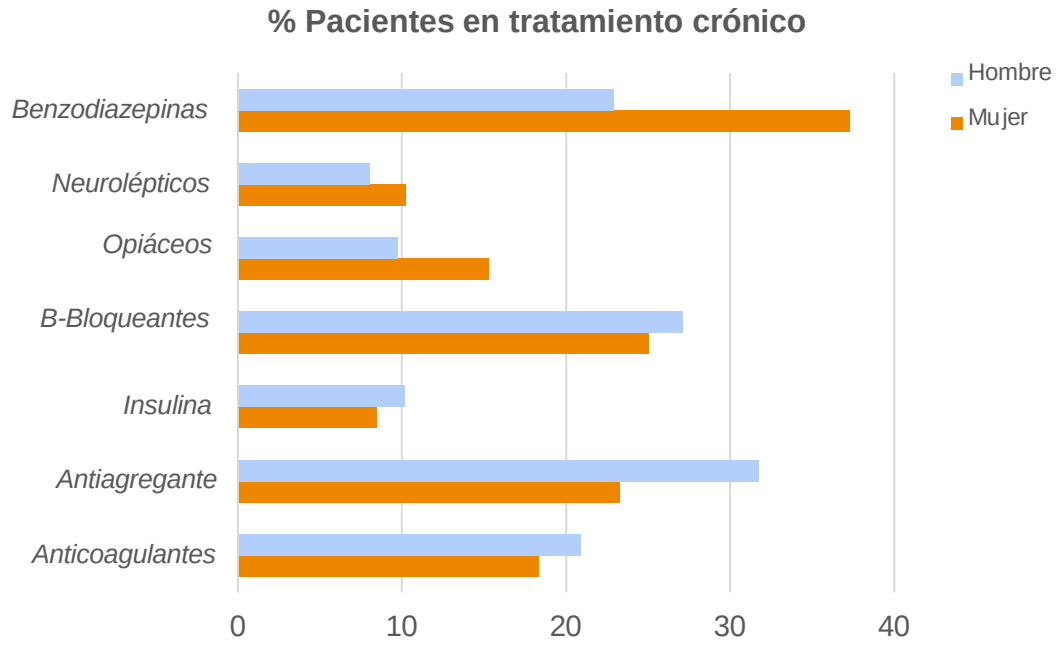
EDEN: POLIFARMACIA Y FRAGILIDAD EN URGENCIAS

36.448 pacientes / 52 Hospitales

Edad Media : 78,1 (DE:8) años

Polifarmacia Severa (>10 Fármacos)





Miró O. Emerg Rev Soc Espanola Med Emerg 2022;34:418–27.

VARIABLE SEXO EN URGENCIAS

Farmacoterapia en Urgencias

Efectividad de tratamientos

Prescripción de tratamientos

VARIABLE SEXO EN URGENCIAS

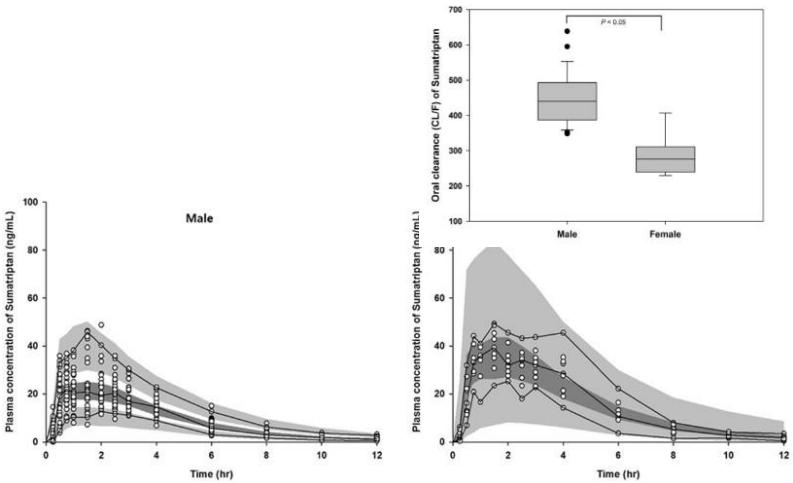
Diferencias en Efectividad

Received: 31 July 2021 | Revised: 5 November 2021 | Accepted: 13 December 2021
DOI: 10.1002/bdd.2307

ORIGINAL ARTICLE

WILEY

Evaluation of sex differences in the pharmacokinetics of oral sumatriptan in healthy Korean subjects using population pharmacokinetic modeling

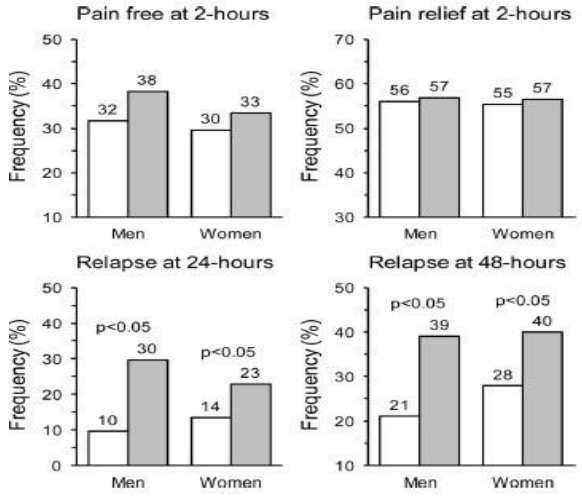


Neurol Sci (2014) 35 (Suppl 1):S99–S105
DOI 10.1007/s10072-014-1750-4

SYMPOSIUM MIGRAINE AND ITS VARIETIES

Gender and triptan efficacy: a pooled analysis of three double-blind, randomized, crossover, multicenter, Italian studies comparing frovatriptan vs. other triptans

Flavia Franconi · Cinzia Finocchi · Gianni Allais ·



VARIABLE SEXO EN URGENCIAS

Diferencias en Efectividad

Sex Differences and Functional Outcome After Intravenous Thrombolysis

Fianne H. Spaander, MD; Sanne M. Zinkstok, MD, PhD; Irem M. Baharoglu, MD;

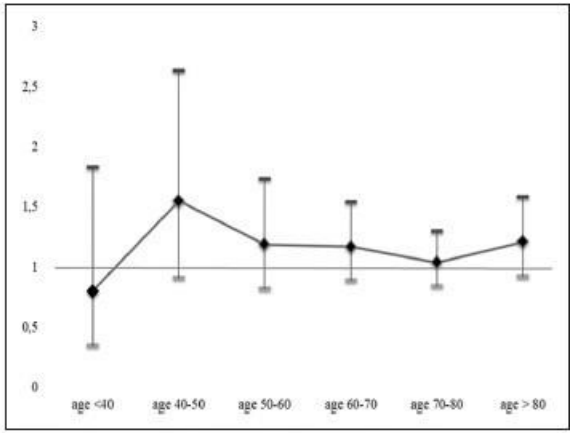


Figure 2. Adjusted odds ratio with 95% confidence intervals for poor functional outcome after intravenous thrombolysis in women vs men according to the age category. Adjusted baseline

Clinical Trial/Experimental Study

Medicine®

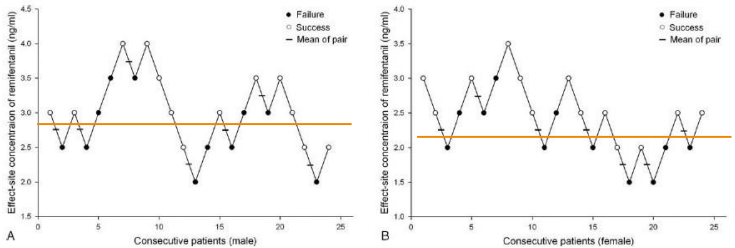
OPEN

Effect of sex differences in remifentanil requirements for the insertion of a laryngeal mask airway during propofol anesthesia

A prospective randomized trial

Han Bum Joe, MD, PhD[a], Jong Yeop Kim, MD, PhD[a], Hyun Jeong Kwak, MD, PhD[b], Sang Eon Oh, MD[a], Sook Young Lee, MD, PhD[a], Sung Yong Park, MD[a,*]

- *The C.effective of remifentanil required for successful LMA insertion on 50% of occasions was significantly lower in women (2.18±0.35ng/mL) than in men (2.82 ±0.53ng/mL) (P=0.02).*
- *The C.effective of remifentanil required for successful LMA insertion was significantly lower in women (3.38 [3.0–3.48] ng/mL) than in men (3.94 [3.80–3.98] ng/mL).*



VARIABLE SEXO EN URGENCIAS

Diferencias en Efectividad

Diferencias de sexo en los beneficios de la anticoagulación en pacientes ancianos con fibrilación auricular: un subanálisis del estudio EMERG-AF

Mercedes Varona[1,2], Alfonso Martín[1,3], Juan Sánchez[1,4], Juan Tamargo[5], Manuel Cancio[1,6],

Anticoagulación al alta:

- Mujeres: 81,3%
- Hombres: 85,9%

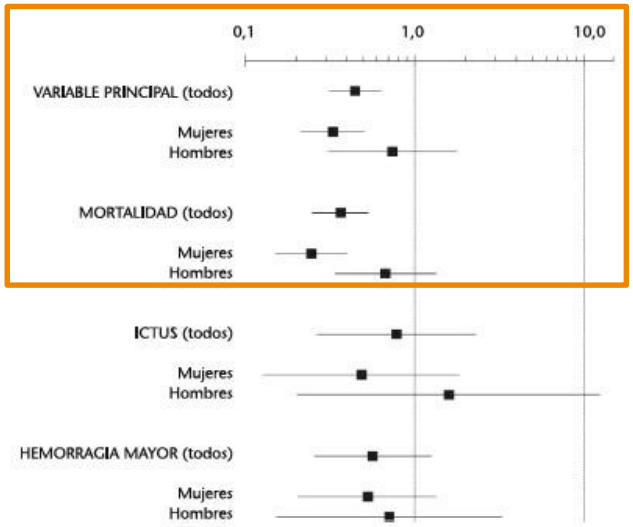


Figura 3. Interacción de la variable sexo en la variable de resultado princi
Los valores de p en negrita denotan significación estadística (p < 0,05).

CHA2DS2-VASc

Letter	Risk factor	Score
C	Congestive heart failure/LV dysfunction	1
H	Hypertension	1
A_2	Age ≥75	2
D	Diabetes mellitus	1
S_2	Stroke/TIA/thrombo-embolism	2
V	Vascular disease*	1
A	Age 65–74	1
S	Sex category (i.e., female sex)	1

CHA2DS2-VA

ESC European Society of Cardiology

Letter	Risk factor	Sco
C	Congestive heart failure/LV dysfunction	1
H	Hypertension	1
A_2	Age ≥75	2
D	Diabetes mellitus	1
S_2	Stroke/TIA/thrombo-embolism	2
V	Vascular disease*	1
A	Age 65–74	1

European Heart Journal (2024) 45, 3314–3414

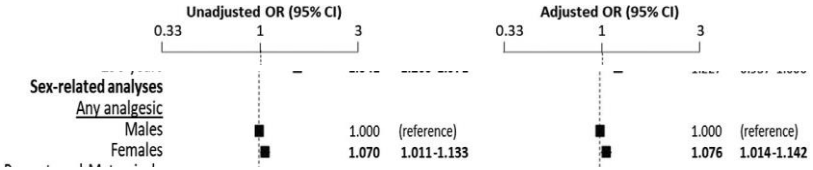
VARIABLE SEXO EN URGENCIAS

Diferencias en prescripción

Sex- and age-related patterns in the use of analgesics in older patients in the emergency department

Table 2 Comparison of the use of analgesics in the emergency department according to patient sex and age

	Receiving any analgesic N = 6678 n (% respect to all patients in the category)	Receiving Paracetamol – Metamizole N = 5551 n (% respect to all patients in the category)	Receiving NSAIDs N = 1661 n (% respect to all patients in the category)	Receiving opiates N = 937 n (% respect to all patients in the category)
Sex				
Male	2899 (26.3)	2452 (22.2)	659 (6.0)	410 (3.7)
Female	3779 (27.9)	3099 (22.9)	1002 (7.4)	527 (3.9)
P-value	0.003	0.191	<0.001	0.458
Age				
65–69 years	1097 (25.8)	851 (20.0)	397 (9.3)	144 (3.4)
70–79 years	2482 (25.3)	1993 (20.3)	716 (7.3)	340 (3.5)
80–89 years	2324 (28.7)	2017 (24.9)	439 (5.4)	329 (4.1)
≥90 years	775 (32.2)	690 (28.6)	109 (4.5)	124 (5.1)
P-value[a]	<0.001	<0.001	<0.001	<0.001
Interaction sex[a] age				
P-value	0.018	<0.001	0.203	0.068



Received: 6 January 2022 | Revised: 1 July 2022 | Accepted: 8 July 2022
DOI: 10.1002/emp2.12792

JACEP OPEN WILEY

ORIGINAL RESEARCH

The Practice of Emergency Medicine

Comparison of emergency department throughput and process times between male and female patients: A retrospective cohort investigation by the Reducing Disparities Increasing Equity in Emergency Medicine Study Group

TABLE 2 Throughput and process time measures presented by patient sex for all visits (unrestricted sample), and only first ED visit (restricted sample)

Time measures (min)	Median [Q1–Q3] Adult ED visits (N = 106,011)	Adult female ED visits (N = 55,435)	Adult male ED visits (N = 50,576)	Median difference (95% CI)[a]	RR (95% CI)[b]	*P* value[b]
Length of stay	237 [159–335]	241 [163–338]	233 [155–331]	8 (7–11)	1.016 (1.007–1.026)	<0.001
Door-to-room time	9 [2–56]	10 [2–63]	8 [2–49]	2 (2–2)	1.058 (1.039–1.077)	<0.001
Door-to-healthcare practitioner	47 [22–105]	50 [23–110]	45 [21–98]	5 (4–6)	1.055 (1.036–1.074)	<0.001
Door-to-disposition	187 [119–275]	194 [125–284]	178 [113–266]	16 (14–18)	1.049 (1.041–1.058)	<0.001
Door-to-OTC analgesia[c]	82 [33–170]	84 [33–174]	80 [33–164]	4 (0–8)	1.010 (0.975–1.046)	0.582
Door-to-advanced analgesia[d]	90 [50–167]	95 [52–173]	84 [46–159]	11 (8–14)	1.060 (1.037–1.083)	<0.001
Door-to-PO ondansetron order	67 [34–138]	70 [35–142]	62 [33–132]	8 (4–11)	1.050 (1.007–1.095)	0.022
Door-to-IM or IV antiemetic order[e]	74 [39–146]	76 [40–150]	69 [37–139]	7 (4–10)	1.044 (1.007–1.082)	0.019

VARIABLE SEXO EN URGENCIAS

Diferencias en prescripción

Intensive Care Med (2020) 46:727–736
https://doi.org/10.1007/s00134-019-05910-9

ORIGINAL

Sex-based differences in ED management of critically ill patients with sepsis: a nationwide cohort study

Jonas Sunden-Cullberg[1*], Anton Nilsson[2] and Malin Inghammar[3,4*]

*"Men had completed **1-h sepsis bundles** in 41.5% of cases compared to 30.0% in women (p < 0.001), and **shorter time to antibiotics**—65 (IQR 30–136) vs 87 min (IQR 39–172) (p = 0.0001)"*

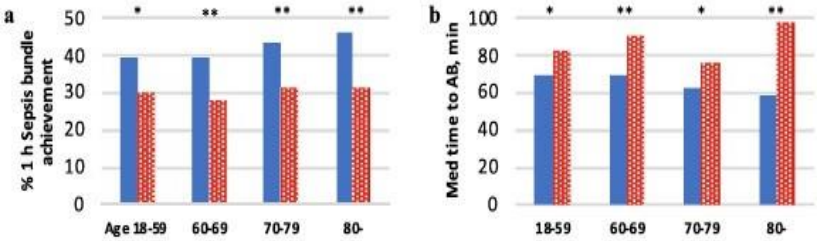


Table 2 Processes of care in women and men

Characteristic	All patients	Women	Men	Women vs men *p* value
Number of patients	2720	1210 (44.5%)	1510 (55.5%)	
Processes of care,% of patients				
EMS				
Arrival in ambulance[a]	80.6	79.7	81.3	0.3
Saturation, SBP, RR, PR all measured and recorded in ambulance	52.4	49.9	54.4	0.02
Oxygen and IV fluids in ambulance	37.7	34.8	40	0.02
Emergency department				
All vital signs measured and recorded in ED	61.8	60.9	62.6	0.37
Time to AB[b] median, IQR	75 min, 34–150	87 min, 39–172	65 min, 30–136	0.0001
AB within 1 h	43.6	38.6	47.6	< 0.001
AB within 3 h	80.6	77.1	83.5	< 0.001
Iv fluids within 1 h[c]	82.3	80.9	83.5	0.08
Lactate/BE measured < 1 h	77.4	75.2	79.1	0.02
BC before AB[d]	93.6	91.8	95.1	0.001
Lactate within 1 h	70.4	68.4	72	0.09
Bundle1h[e]	36.4	30	41.5	< 0.001
ICU				
Composite NWS median, IQR (mean, SD)[f]	2, 1–3 (2.35 ± 1.14)	2, 1–3 (2.36 ± 1.14)	2, 1–3 (2.35 ± 1.15)	0.84
Mechanical ventilation	30.1	29.3	30.7	0.43
Incorrect AB	7.5	7.1	7.8	0.49
Treatment limitations 48 h	20.2	20.2	20.2	0.98

VARIABLE GÉNERO EN URGENCIAS

Pacientes Transgénero

STATE OF THE ART

Sex and Gender Differences in Clinical Pharmacology: Implications for Transgender Medicine

Lauren R. Cirrincione[1]* and Kai J. Huang[2]

Table 4 Predicted changes in major drug-metabolizing / transport protein activities during hormone therapy

Enzyme / transporter protein	Testosterone treatment	Estrogen treatment	Substrates (examples of medications potentially taken by transgender adults)
CYP1A2	?	↓	Duloxetine, clozapine, mirtazapine, olanzapine, ondansetron, theophylline
CYP2B6	↔	↔	Bupropion, efavirenz
CYP2C9	↔	↔	Celecoxib, diclofenac, ibuprofen, naproxen, glyburide, phenytoin, warfarin
CYP2C19	?	↓	Citalopram, escitalopram, sertraline, diazepam, omeprazole, pantoprazole
CYP2D6	?	↔	Citalopram, duloxetine, fluoxetine, paroxetine, metoprolol, dextromethorphan
CYP3A4	?	↔/↑	Protease inhibitors, midazolam, repaglinide
UGT1A1	?	↑	Lorazepam, oxazepam, bictegravir, cabotegravir, dolutegravir, elvitegravir, raltegravir
UGT1A4	?	↑	Lamotrigine
P-glycoprotein	?	↑	Atazanavir, darunavir, ritonavir, bictegravir, dolutegravir, verapamil, dabigatran etexilate

CYP, cytochrome P450; NSAIDs, nonsteroidal anti-inflammatory drugs; UGT, uridine 5′-diphospho-glucuronosyltransferase; ↑, increase; ↓, decrease; ↔, no significant change; ?, unknown.

Received: 23 June 2024 | Revised: 22 August 2024 | Accepted: 7 September 2024

DOI: 10.1111/acem.15027

AEM Academic Emergency Medicine

ORIGINAL ARTICLE

Disparities in pain management among transgender patients presenting to the emergency department for abdominal pain

TABLE 4 ED pain scores and interventions.

	NB/GQ ($n=188$)	TGW ($n=56$)	TGM ($n=56$)	HS women ($n=300$)	HS men ($n=300$)
Imaging in ED	110 (58.5)	37 (66.1)	33 (58.9)	159 (53.0)	191 (63.7)
Abdominal CT in ED	91 (48.4)	35 (62.5)	28 (50)	133 (44.3)	187 (62.3)
Abdominal/pelvic US in ED	35 (18.6)	2 (3.6)	13 (23.3)	51 (17)	9 (3)
ED LOS (h)	3.5 (2.3–4.9)	3.5 (2.4–5.2)	3.3 (2.1–4.9)	3.4 (2.4–5.1)	3.8 (2.6–5.0)
Pain score within 60 min	107 (56.9)	38 (67.9)	32 (57.1)	191 (63.7)	195 (65)
Any pain score in ED	147 (78.2)	48 (85.7)	40 (71.4)	250 (83.3)	252 (84)
No. of pain scores in ED	2 (1,3)	2 (1,3)	2 (2,5)	2 (1,3)	2 (1,4)
No. of pain scores per 4 h	2.4 (1.6–3.6)	2.4 (1.5–4.1)	2.5 (2.1–3.9)	2.6 (1.6–4.2)	2.5 (1.6–3.9)
Pain score in ED	5 (4–7)	5 (3–7)	6 (5–8)	6 (4–7)	6 (4–8)
Analgesics given in ED					
GABA analogs	0 (0)	0 (0)	0 (0)	1 (0.3)	0 (0)
NSAID	62 (33)	15 (26.8)	19 (33.9)	82 (27.3)	66 (22)
Miscellaneous agents	29 (15.4)	6 (10.7)	6 (10.7)	51 (17.0)	25 (8.3)
Opioid	42 (22.3)	14 (25)	18 (32.1)	102 (34)	127 (42.3)
Topical agent	1 (0.5)	1 (1.8)	0 (0)	1 (0.3)	3 (1)
Any IV analgesic	73 (38.8)	24 (42.9)	29 (51.8)	136 (45.3)	157 (52.3)

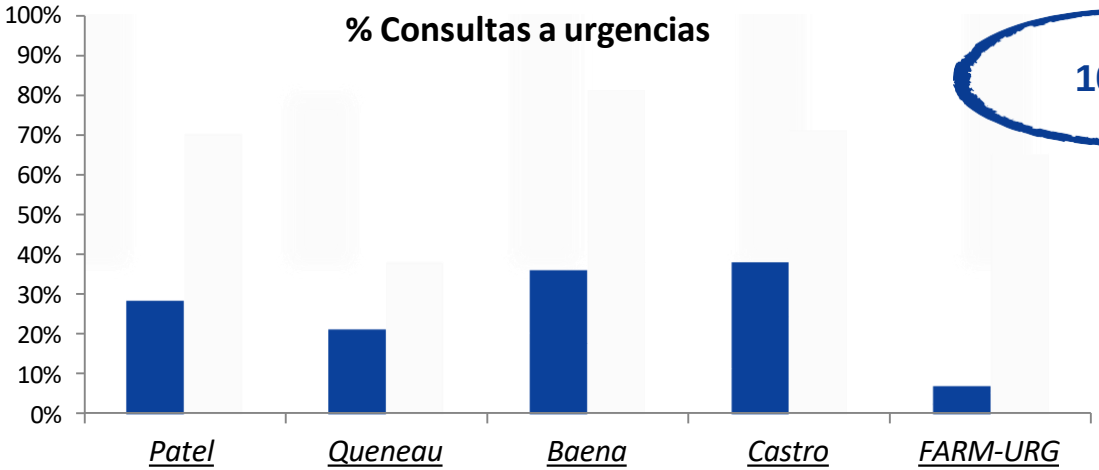
SANT PAU
Campus Salut
Barcelona

Codi
Medicament
SANT PAU

PROBLEMAS DE SALUD POR MEDICAMENTOS CON PERSPECTIVA DE GÉNERO

PROBLEMAS DE SALUD POR MEDICAMENTOS

*"Resultados en la salud del paciente no adecuados al objetivo de la farmacoterapia y asociados al **uso o fallo en el uso** de los medicamentos."*



10-20%

Patel P et al. Pharmacotherapy. 2002;22(7):915–23.
Queneau et al . Drug Safety.2007;30(1):81–8.
Baena MI et al . Eur J Clin Pharmacol. 2006;62(5):387–93.
Castro I et al . Int J Clin Pharm.2013;35(5):727–35.
FARM-URG. Farm Hosp. 2022

PROBLEMAS DE SALUD POR MEDICAMENTOS

¿Por qué evaluar PSMs y sexo?

Age and sex distribution of uspected adverse drug reactions to newly marketed drugs in general practice in England: analysis of 48 cohort studies.

Br J Clin Pharmacol. 1998 Nov;46(5):505-11.

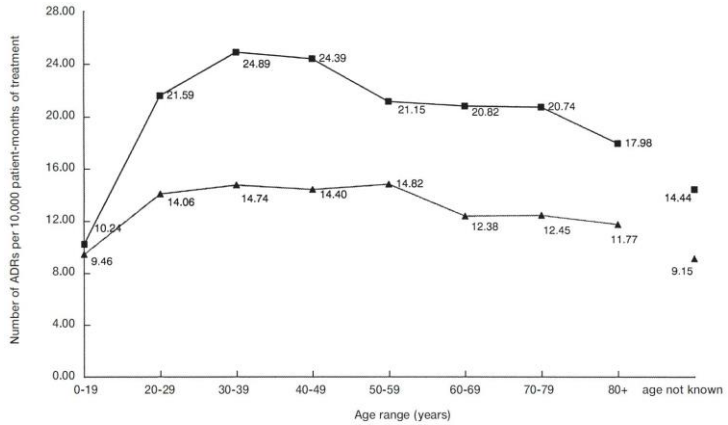
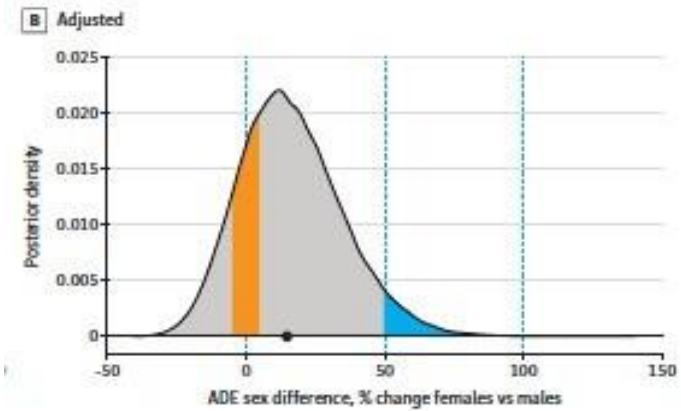


Figure 1 Age and sex specific incidence rates of suspected adverse drug reactions (ADRs) ■ female, ▲ male.

Research Letter | Equity, Diversity, and Inclusion

Adverse Drug Events by Sex After Adjusting for Baseline Rates of Drug Use

Tamara Rushovich, MPH; Annika Gompers, MPhil; Jeffrey W. Lockhart, PhD; Ife Omidiran, BA; Steven Worthington, PhD; Sarah S. Richardson, PhD; Katharine M. N. Lee, PhD



*"The probability of a **sex difference** close to 0 was **17%**, whereas a **sex difference of 50% to 100% higher ADEs** in females compared with males was reduced to **4.9**%."*

PROBLEMAS DE SALUD POR MEDICAMENTOS

SANT PAU Campus Salut Barcelona

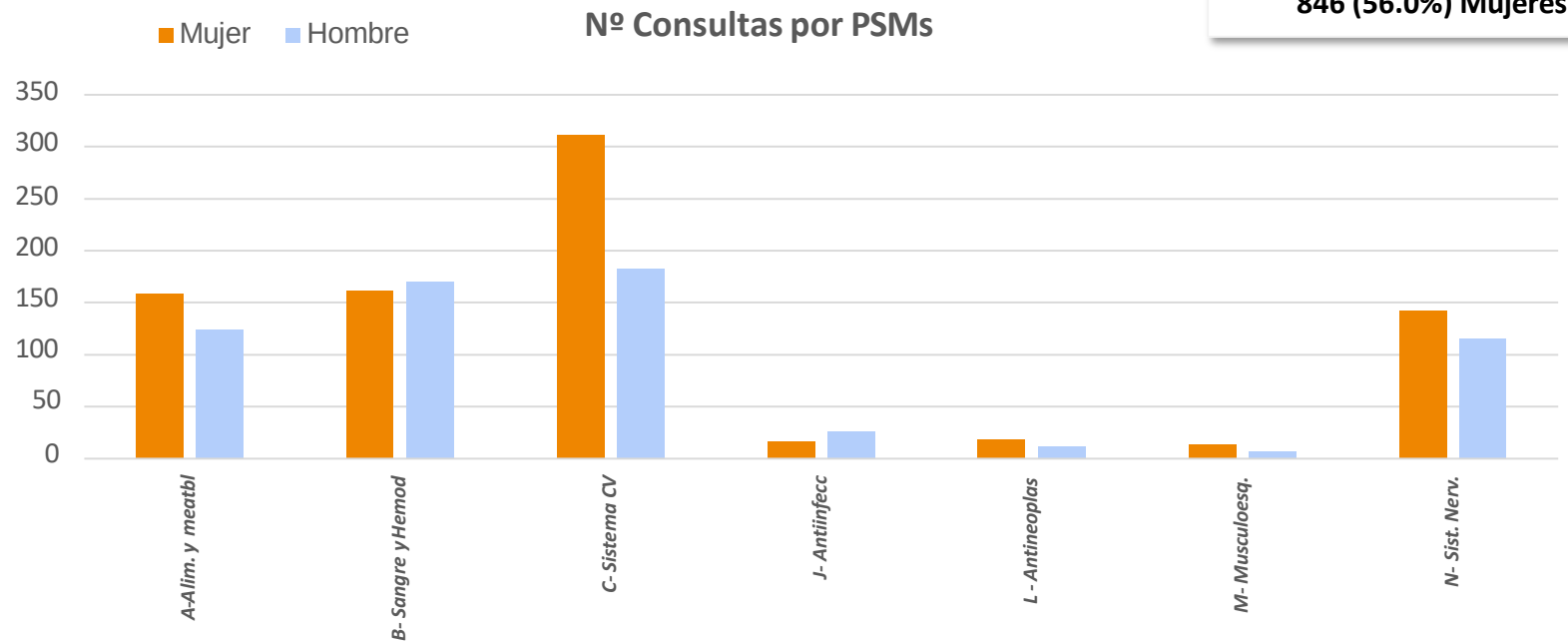
Codi Medicament SANT PAU

Consultas por Grupo Terapéutico HSP

Enero 2022-Oct 2024

1511 pacientes

846 (56.0%) Mujeres

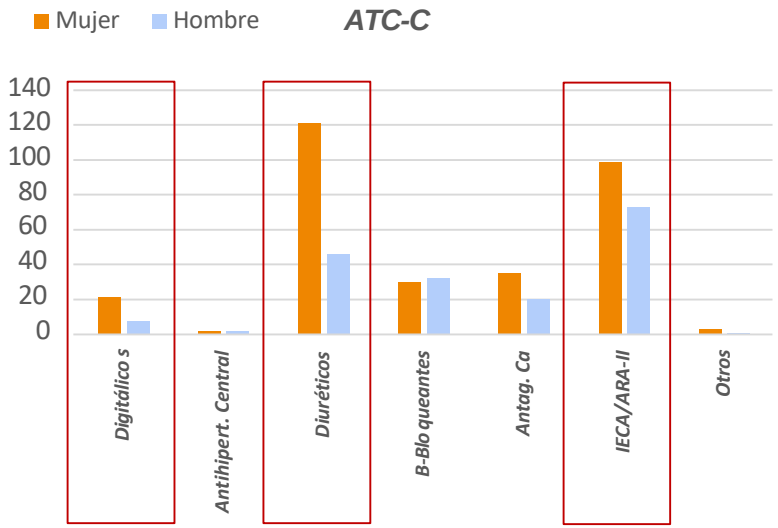


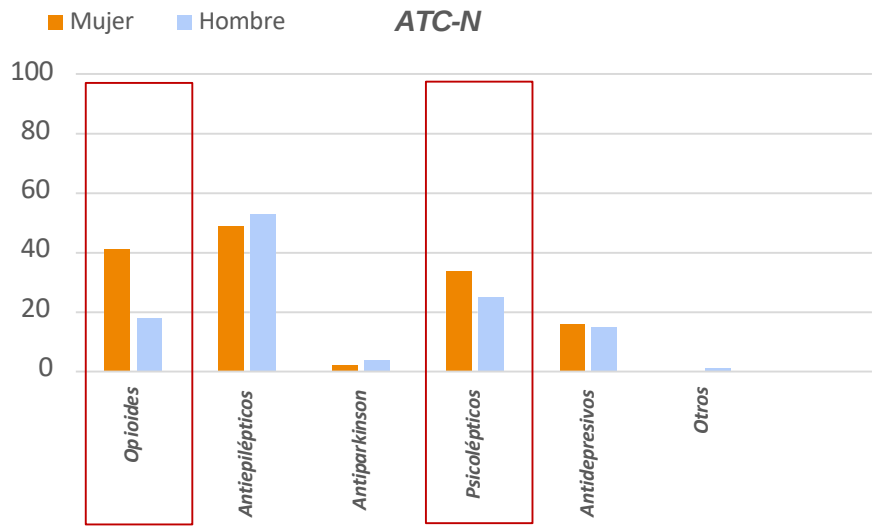
PROBLEMAS DE SALUD POR MEDICAMENTOS

SANT PAU Campus Salut Barcelona

Codi Medicament SANT PAU

Consultas por Grupo Terapéutico

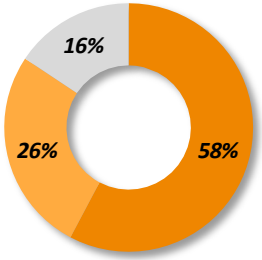


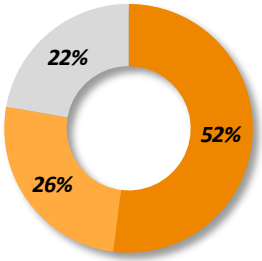


PROBLEMAS DE SALUD POR MEDICAMENTOS

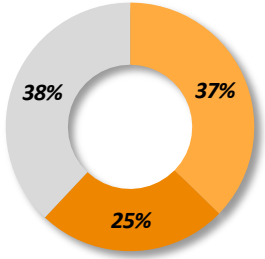
Alta
Media
Baja

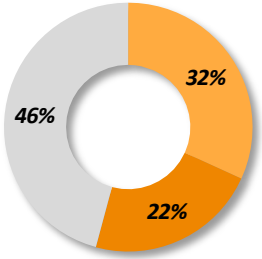
Alta Carga Anticolinérgica



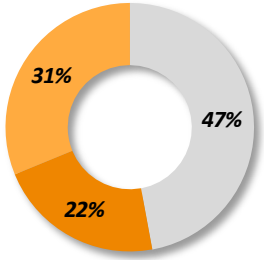


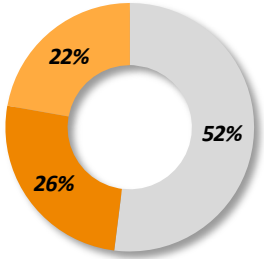
Alta Complejidad Terapéutica





Alto Riesgo de Caídas





PROBLEMAS DE SALUD POR MEDICAMENTOS

Age Ageing. Author manuscript; available in PMC 2018 December 10.

Published in final edited form as:
Age Ageing. 2015 March ; 44(2): 219–225. doi:10.1093/ageing/afu185.

Total anticholinergic burden and risk of mortality and cardiovascular disease over 10 years in 21,636 middle and older aged men and women of EPIC-Norfolk prospective population study

Table 1

Sample characteristics of 21,636 men and women of the EPIC-Norfolk (1993/1997-2009/2011) according to the total anticholinergic burden (ACB) score

	ACB score 0 group (n=17,317)	ACB score 1 group (n=2,704)	ACB score 2-3 group (n=1,324)	ACB score >3 group (n=291)	P
Age (years)	57.9 (9.1)	62.9 (8.8)	62.2 (9.2)	63.1 (8.9)	0.07
Sex					0.003
Men	8,068 (47)	1,348 (50)	593 (45)	126 (43)	
Women	9,249 (53)	1,356 (50)	731 (55)	165 (57)	

Models	Mortality (Events (n)/Total N=4,342/21,636)				
	ACB score 0 group	ACB score 1 group	ACB score 2-3 group	ACB score >3 group	p-value
A	1.00	1.42 (1.32-1.54)	1.90 (1.73-2.10)	2.20 (1.84-2.64)	<0.00001
B	1.00	1.39 (1.29-1.50)	1.85 (1.68-2.04)	2.07 (1.73-2.48)	<0.00001
C	1.00	1.28 (1.18-1.39)	1.65 (1.49-1.82)	1.83 (1.53-2.20)	<0.00001
D*	1.00	1.34 (1.22-1.48)	1.58 (1.38-1.80)	2.08 (1.63-2.66)	<0.00001
E#	1.00	1.25 (1.16-1.36)	1.63 (1.47-1.81)	1.68 (1.38-2.04)	<0.00001
F	1.00	1.27(1.18-1.38)	1.63(1.48-1.81)	1.82(1.51-2.18)	<0.00001
Models	Cardiovascular disease incidence (Events (n)/Total N=7,328/21,636)				
	ACB score 0 group	ACB score 1 group	ACB score 2-3 group	ACB score >3 group	p-value
A	1.00	1.77 (1.66-1.87)	2.18 (2.02-2.36)	2.48 (2.14-2.88)	<0.00001
B	1.00	1.65 (1.57-1.75)	2.09 (1.93-2.26)	2.40 (2.06-2.78)	<0.00001
C	1.00	1.51 (1.42-1.61)	1.86 (1.72-2.02)	2.17 (1.87-2.52)	<0.00001
D*	1.00	1.70 (1.58-1.83)	1.82 (1.64-2.02)	2.26 (1.84-2.77)	<0.00001
E#	1.00	1.50 (1.41-1.60)	1.85 (1.71-2.01)	2.05 (1.75-2.40)	<0.00001
F	1.00	1.48 (1.39-1.57)	1.81(1.68-1.96)	2.10(1.80-2.44)	<0.00001

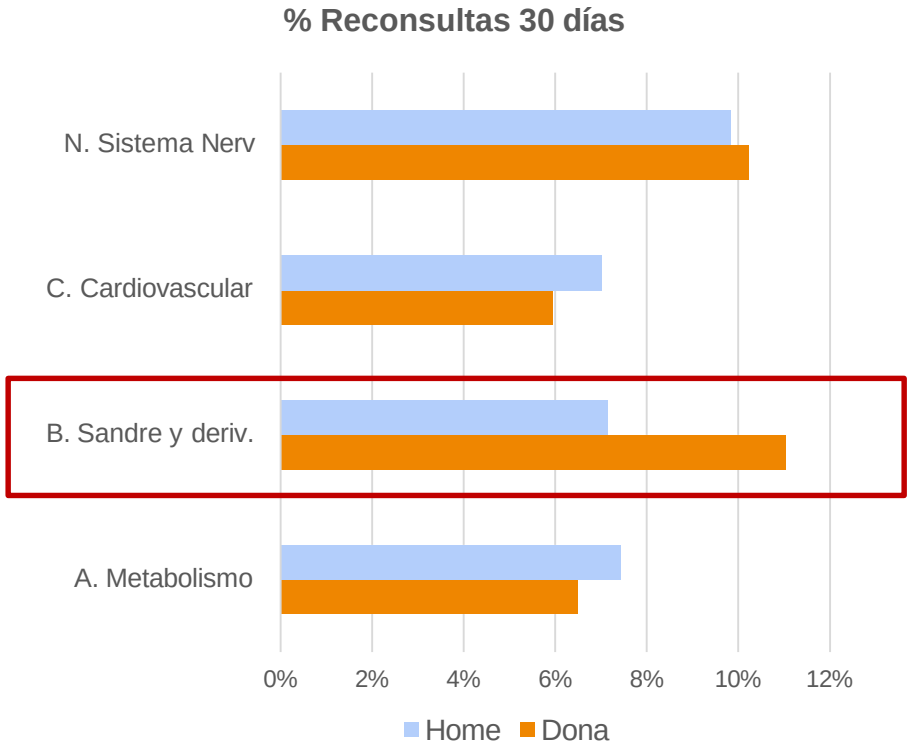
PROBLEMAS DE SALUD POR MEDICAMENTOS

Reconsultas por GT según sexo

1332 pacientes

	Mujer	Hombre	Total
No	695	522	1217
Sí	65 (8,5%)	50 (8,7%)	115 (8,6%)

Pearson chi2 = 0.0147 p = 0.903

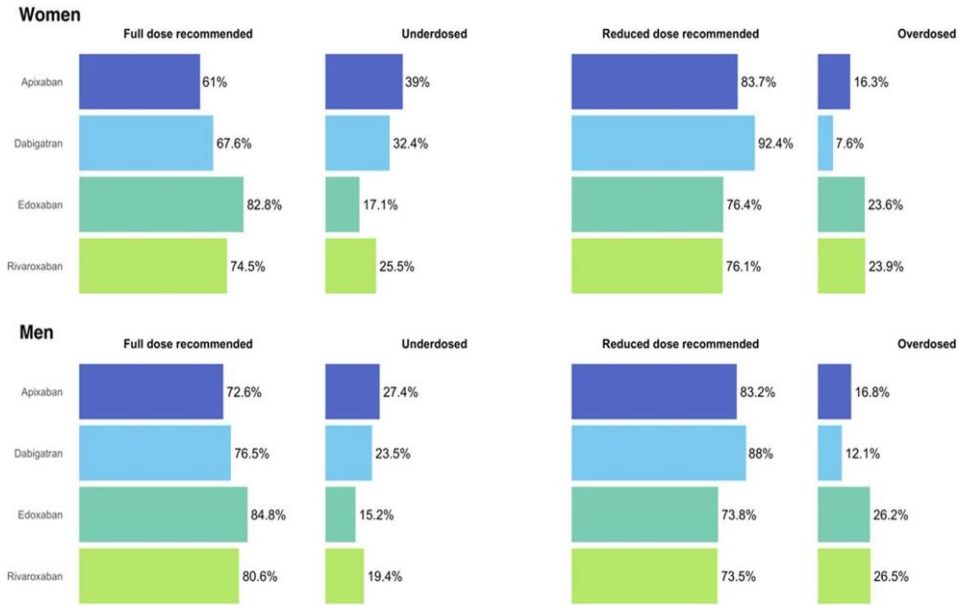


PROBLEMAS DE SALUD POR MEDICAMENTOS

Sex and gender differences in the use of oral anticoagulants for non-valvular atrial fibrillation: A population-based cohort study in primary health care in catalonia

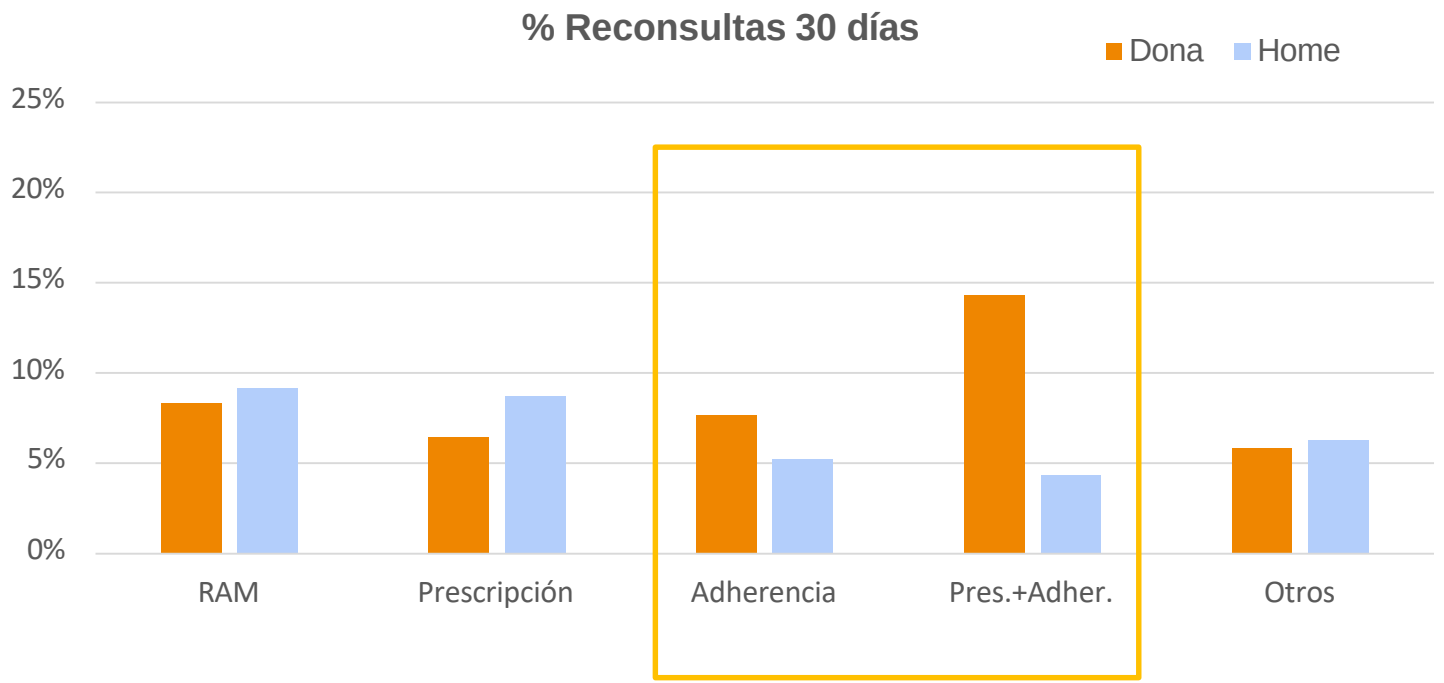
Maria Giner-Soriano[1,2]*, Oriol Prat-Vallverdú[3], Dan Ouchi[1,2], Carles Vilaplana-Carnerero[1,2,4] and Rosa Morros[1,4,5,6]

*"**Women were more frequently underdosed** than men with all DOAC, even though they have a **higher risk of stroke** and the use of lower doses than recommended can presumably result in an increased rate of events"*



PROBLEMES DE SALUT RELACIONATS AMB MEDICAMENTS

Reconsultas por tipo de PSMs según sexo



PROBLEMES DE SALUT RELACIONATS AMB MEDICAMENTS

Medication adherence: Is it a hidden drug-related problem in hidden elderly?

Vivian WY Lee,[1] Kathy KW Pang,[1] Ka Chun Hui,[1] Jennifer CK Kwok,[1] Siu Ling Leung,[1] Doris Sau Fung Yu[2] and Diana Tze Fan Lee[2]

Table 2 Health and drug-related problems in hidden elders

	n	%
Non-compliance		
Missing doses due to forgetfulness	28	32.56%
Misunderstanding dose/method of administration	28	32.56%
Self-adjusting medication regimen	21	24.42%
Self-medicating prescription drugs	10	11.63%
Any of the above	53	61.63%
Knowledge deficiency		
Poor knowledge of drug indication	33	38.37%
Poor knowledge of drug side-effects	24	27.91%
Other false belief	5	5.81%
Storage problem		
Accumulation of drugs	45	52.33%
Storing drugs in scattered places	15	17.44%
Storing drugs in fridge	13	15.12%
Multiple drugs in the same container	8	9.30%
Other wrong storage	22	25.58%
Any of the above	60	69.77%
Others		
Not telling doctor about the concomitant use of drugs or health supplements or Chinese medicines	38	44.19%
Adverse drug reactions	26	30.23%
Concomitant use of Chinese medicine	22	25.58%
Difficulty in splitting pills	17	19.77%
Use of expired medications	8	9.30%
Drug interaction	5	5.81%
Problem related to multiple physicians	4	4.65%
Health-related problems	**N**	**%**
Knowledge deficiency		
Poor knowledge of disease management	15	17.44%
Poor knowledge of SMBP/SMBG practice	6	6.98%
Others		
Problem with attending clinical follow-up or service	6	6.98%
Negative mind set towards medical service provided by government	4	4.65%

SMBG, self-monitored blood glucose; SMBP, self-monitored blood pressure.

Table 3 Odd ratios of determinants to medium to low medication adherence*†

Determinants	Odds ratios	95% CI	*P*
Sex (female)	**4.52**	**1.432–15.358**	**0.023‡**
Polypharmacy (≥5 med)	0.82	0.240–2.247	0.742
Polypharmacy (≥9 med)	**9.19**	**1.895–81.452**	**0.031‡**
Multiple chronic diseases (≥3)	1.18	0.364–3.806	1.000
Multiple chronic diseases (≥4)	1.49	0.620–5.396	0.387
Hypertension	2.38	0.643–11.553	0.728
Diabetes	0.60	0.472–2.915	1.000
Cardiovascular disease	1.53	0.682–5.763	0.406
Hyperlipidemia	0.64	0.176–2.432	0.899
Arthritis	**6.50**	**1.315–32.364**	**0.017‡**
With assistance for drug management	0.27	0.031–1.710	0.208
Poor knowledge of drug indication	1.11	0.284–3.115	1.000
Poor knowledge of drug side-effect	1.22	0.311–3.428	1.000
Poor knowledge of disease information	1.36	0.322–5.569	0.743
Adverse drug reactions	1.96	0.388–6.091	0.420
Drug storage problem (any)	**10.33**	**2.511–44.564**	**0.001‡**

metabolites

MDPI

Review

Gender-Related Factors in Medication Adherence for Metabolic and Cardiovascular Health

Vittorio Venditti [1,†], Enrico Bleve [1,†], Susanna Morano [1] and Tiziana Filardi [2,*]

Table 1. Observations of non-adherence through all the conditions examined.

Type of Condition	Observations
Type 2 Diabetes	Women show low medication adherence to anti-hyperglycemic treatments. Depressive disorders and diabetes distress are significantly more common in female patients and seem to play a key role Women with diabetes might greatly benefit from more structured and supportive educational programs, possibly involving multidisciplinary teams, aimed at overcoming barriers to medication adherence
Dyslipidemia	Non-adherence is due to several factors (mainly socio-demographic and treatment-related) and appears to be more frequent in women New treatment strategies are needed to improve adherence (association therapy, therapeutic interchange, increased medical support)
Arterial Hypertension	Women are less likely to achieve Blood Pressure targets The contribution of sex as a determinant of medication adherence is still controversial
Cardiovascular Disease	Worse outcomes in cardiovascular diseases among women could be associated with disparities in health assistance, including risk assessment and evidence-based medication prescription Most studies are consistent with poorer adherence in women, but the reasons are largely unknown and involve a complex overlap between numerous factors
Heart Failure	Studies that examined the effect of sex/gender on adherence to heart failure therapy are still insufficient to draw firm conclusions In consideration of the relevant impact of medication adherence on heart failure outcomes, further research is needed on this issue

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Table 3. Studies that evaluated gender-related factors in medication adherence.

Type 2 Diabetes		
Authors	**Year**	**Main Findings**
Bird CE, et al. [32]	2007	Women have lower access to healthcare facilities due to social, cultural, and psychological issues
Fisher L, et al. [58]	2010	Diabetes distress affects patients' self-management and clinical outcomes more than depression
Penno G, et al. [27]	2013	Women with type 2 diabetes have worse control of glycemia, lipid levels, and blood pressure despite equal or increased treatment intensity
Malmenas M, et al. [45]	2013	Female sex is an independent predictor of low medication adherence for glucagon-like receptor agonists
Manteuffel M, et al. [50]	2014	Women have lower medication adherence, are treated with more drugs, and are less likely to obtain guidelines-based prescriptions
Kirkman MS, et al. [42]	2015	The main predictors of low adherence are female sex, younger age, new drug prescription, low education level, and low social status
Mansyur CL, et al. [63]	2015	Women show more social barriers and less support, leading to lower self-care adherence
Iglay K, et al. [44]	2016	Female sex is an independent predictor of low medication adherence for sulfonylureas
Brunton SA, et al. [41]	2017	Low adherence is associated with a higher hospitalization rate and a negative impact on costs
Hofer R, et al. [62]	2017	There is a strong relationship between improved satisfaction with medication knowledge and increased adherence
Kim YY, et al. [36]	2018	Low adherence to antihyperglycemic medications is associated with an increased risk of all-cause mortality and cardiovascular events
McGovern A, et al. [43]	2018	Adherence differs among various types of drugs prescribed, being higher for metformin, while non-adherence rate varies across other oral agents
Choi YJ, et al. [53]	2018	Younger age, female sex, and depression are predictors of low adherence
Bhaloo T, et al. [60]	2018	Women are more motivated than men when physicians use empathic communication
Bhuyan SS, et al. [65]	2018	Female sex is associated with low medication adherence due to cost-related factors
Horii T, et al. [48]	2019	Adherence is higher in male patients and in therapy schemes involving more than three medications
Xu N, et al. [49]	2020	Longer disease duration (more than five years) is a predictor of good adherence

CONCLUSIONES

- Existen diferencias en la efectividad y la prescripción de medicamentos en los servcios de urgencias en función del género.
- La frecuencia y el tipo de PSMs que consultan urgencias difieren en función del sexo.
- Los problemas de adherencia requieren diferencias en el abordaje en función del género.

SALUT EN CLAU DE GÈNERE: L'ASSIGNATURA PENDENT DE LA MEDICINA PERSONALITZADA

15 de novembre de 2024
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