Incontinence in older adults living with HIV : canary in the coal-mine for multiple geriatric syndromes

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AGEING and HIV UK Oct 2, 2026

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Conflicts of Interest

- Speakers' Bureaus: ViiV, Medscape
- Advisory Board: Serono/Merck

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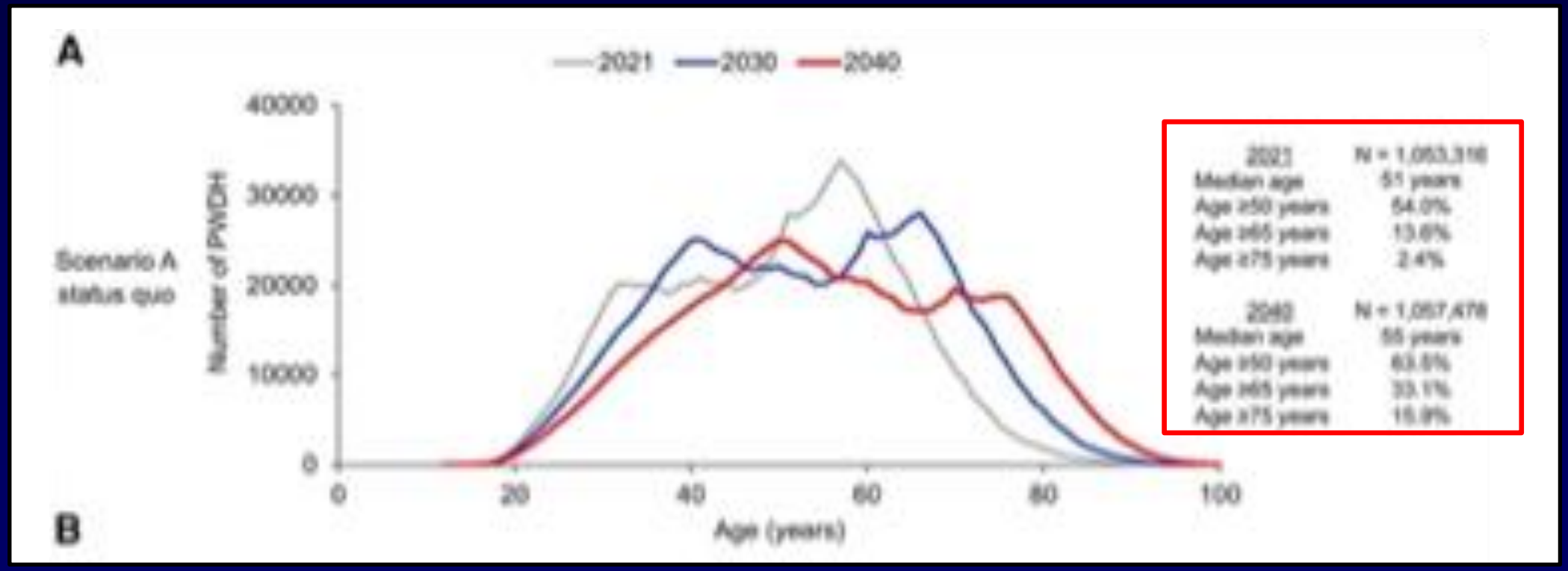
Incontinence in older adults with HIV: Outline

- Background
  -lifespan vs health-span
  -comorbidities vs geriatric syndromes
- Incontinence: risk factors, etiologies, management
- Shared risks for and consequences of geriatric syndromes in HIV
- Future considerations

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Projected change in age distribution of adults and adolescents with HIV in the US from 2021 - 2040, by year and modeled scenario:

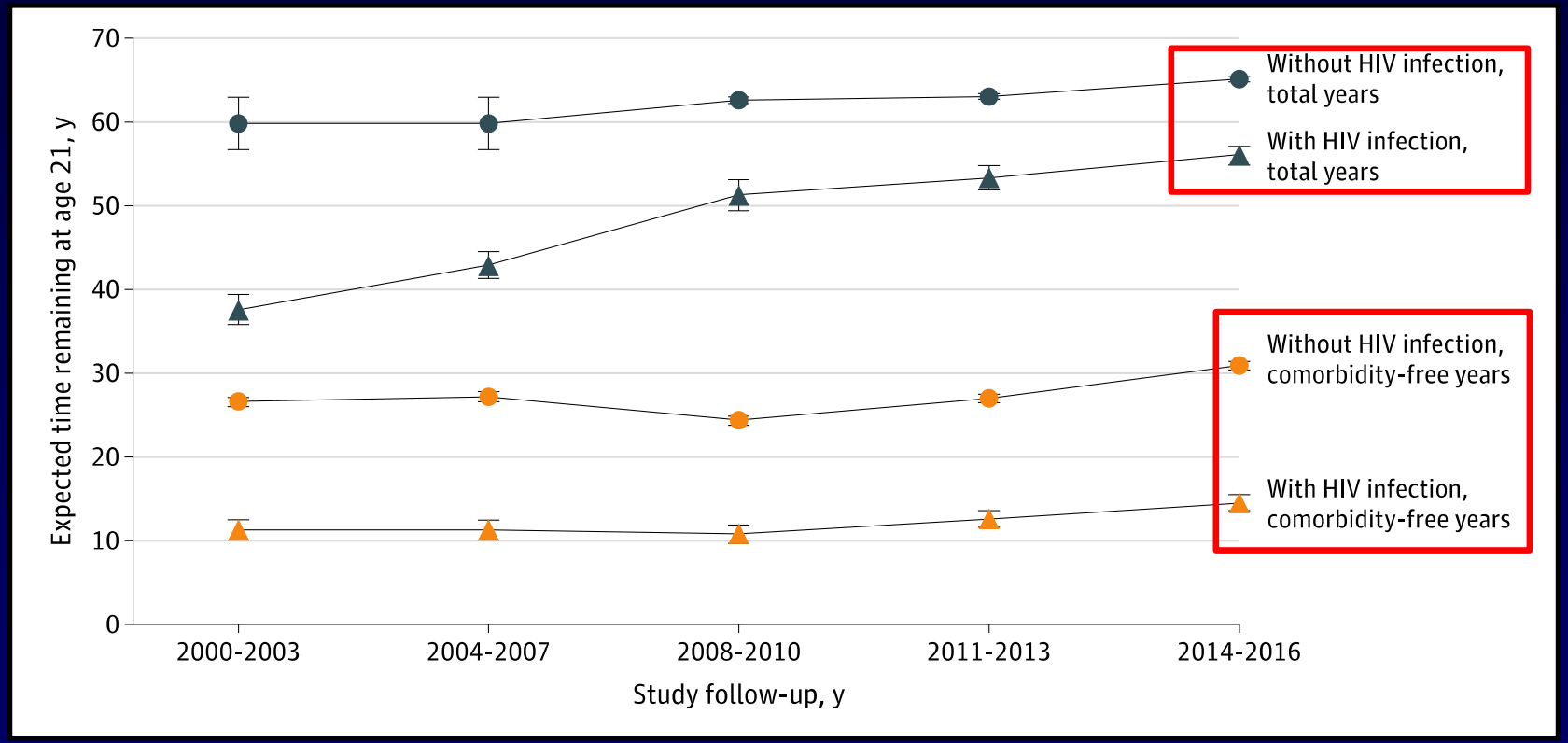
%>65 yo will increase from 13->33%



O'Connor SM et al. Open Forum Inf Dis 2025;12(11):ofaf656

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Although overall survival of adults w HIV approaches that of non-infected persons (85%), *comorbidity-free life expectancy* remains lower among adults w HIV

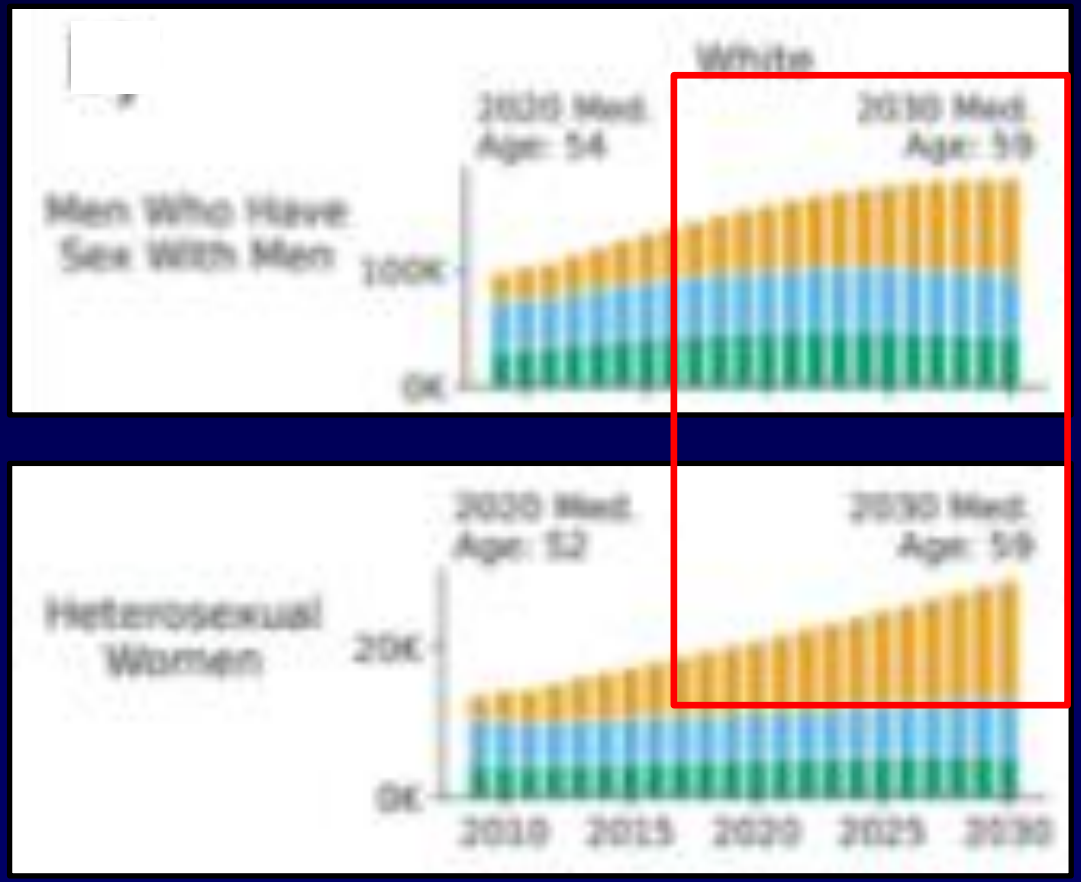


Marcus JL et al. JAMA Network Open 2020;3(6):e207954

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Forecasted number of adults w HIV using ART in the US and prevalence of physical comorbidities and multi-morbidities (>2, or > 3)





Althoff KN et al. PLOS Med 2024;21(1):e1004325

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91M HIV x 39 yrs: multi-morbidities (19)

- *Avascular necrosis left hip (THR)*
- Hypogonadism and replacement induced polycythemia (failed stop test)
- *Macular degeneration*
- Retinal detachment OS
- DLP
- BPH
- DM-2 (A1c-6.8)
- HTN
- Stage 3 CKD (current GFR-40) x 20 years
- Esophageal reflux
- BCC (nose)
- B12 deficiency
- Bigeminy resolved (Echo-> Normal EF, mod aortic sclerosis, mod incr PASP)
- Emergency surgery for herniated lumbar disc (4/21)-> L4-5 laminectomy
- Mild Covid-19 Jan 2022 & Jan 2023 with full recovery
- BMD- osteopenia
- Left hip THR 2023
- Left shoulder rotator cuff tear fell in the rough playing golf
- Recent increase in PSA-MRI normal

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Contributors to decreased lifespan and health-span in older adults with HIV

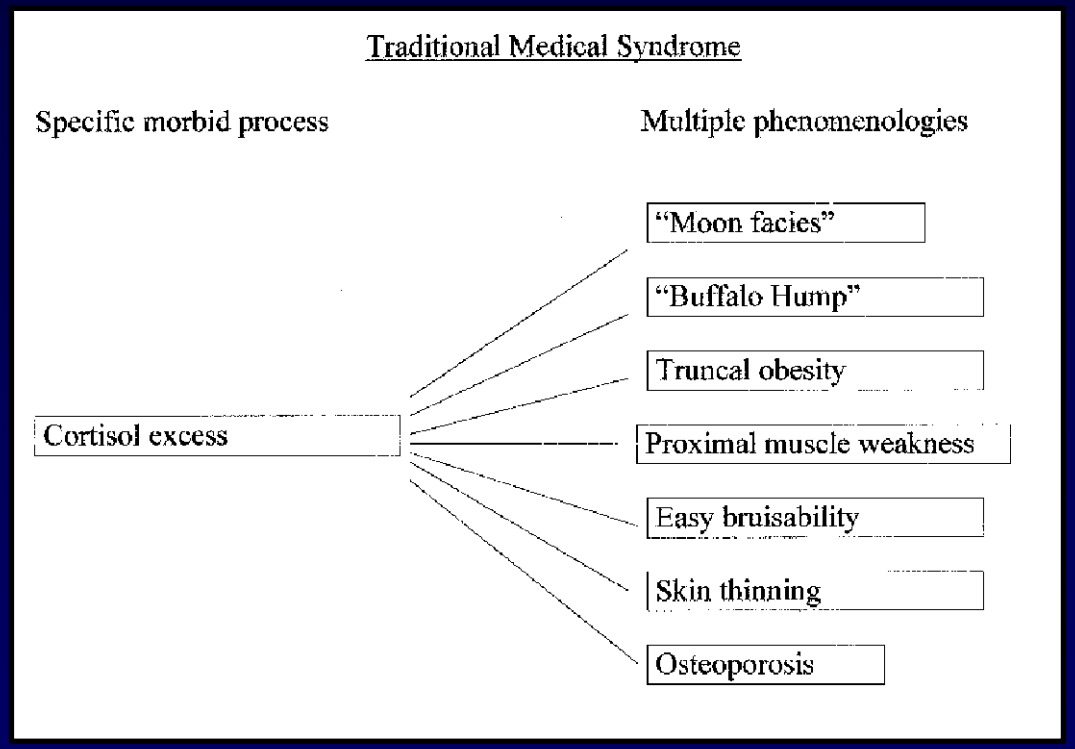
- Premature development of age-related ***co-morbidities***
- Increased risk of early development of ***traditional geriatric syndromes***
- **Not mutually exclusive**
- **Associated with chronic inflammation and immunosenescence**

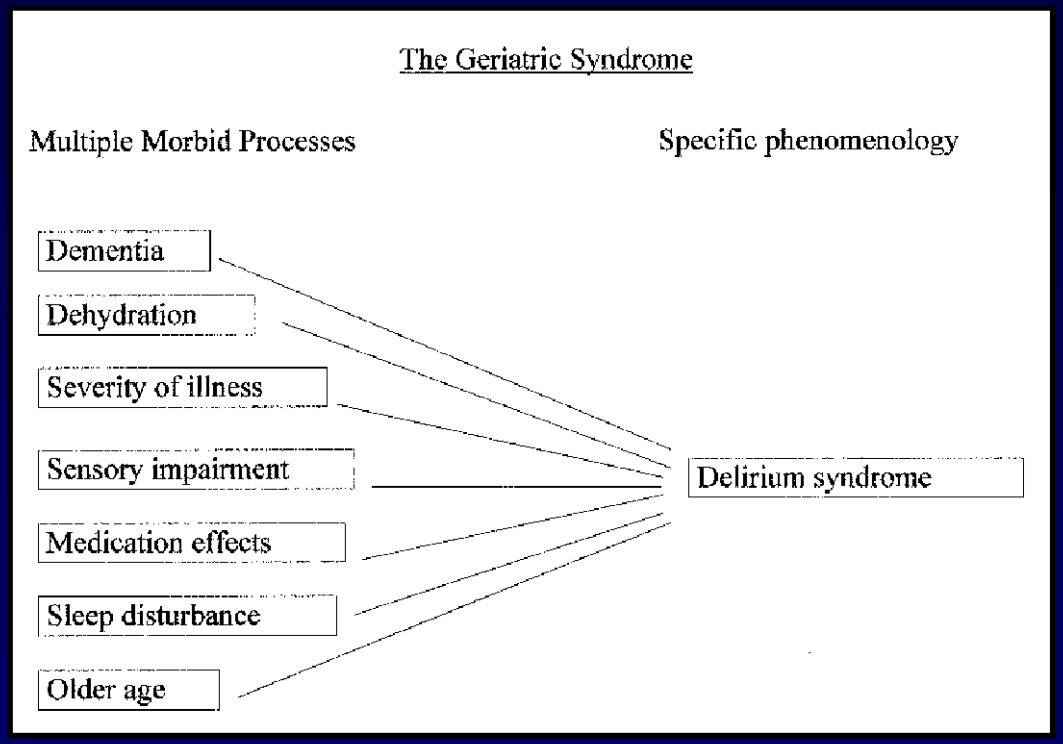
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Geriatric syndromes: conditions which don't fit into discrete disease categories, have multifactorial etiologies, & involve multiple organ systems

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Differences between traditional medical syndromes and geriatric syndromes





Flacker JM et al. JAGS 2003;51:574

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Common geriatric syndromes

- Frailty
- Polypharmacy
- Sensory impairment
- Impaired mobility and falls
- Cognitive impairment
- Impaired bowel/bladder function
- Sarcopenia
- Social isolation/Loneliness

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UI Types- Lower Urinary Tract Symptoms (LUTS)

Stress Incontinence
What it is: Urine leaks when physical movement or pressure puts stress on the bladder
***Common triggers*:** Coughing, sneezing, laughing, exercising, or lifting heavy objects
Cause*:* Weakened pelvic floor muscles or a damaged urinary sphincter that cannot keep the bladder tightly closed under pressure)

Urge Incontinence (also overactive bladder-OAB)
What it is: Experience a sudden, intense, and uncontrollable urge to urinate, often leading to leakage before reaching a bathroom
Common triggers: Hearing running water, drinking a small amount of fluid, or sudden positional changes
Cause*:* Involuntary contractions of the bladder's muscle (the detrusor muscle)

Overflow Incontinence
What it is*: C*annot completely empty the bladder, causing it to become overly full and leak or dribble constantly
***Common triggers*:** Constant minor leaking or dribbling throughout the day and night
Cause: Blockages in the urinary tract (such as an enlarged prostate) or weak bladder muscles that fail to push urine out effectively

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Potential risk factors for UI: Nurses Health Study II (m̄ age 45)

- Increasing age: age 50-54 1.8x c/w < 40
- Ethnicity: African-American and Asian had decr risk c/w Caucasian
- BMI> 30 had 3.3 x incr risk c/w 22-24
- Current smoking
- Increased parity
- Type II DM
- Hysterectomy

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Age-related changes affecting the lower urinary tract

Age-related change	Potential effects on continence
Bladder ultrastructure on electron microscopy, dysjunction pattern	Bladder overactivity and urgency UI
Muscle and axon degeneration	Impaired bladder contractility, increased residual urine, and decreased functional bladder capacity
Bladder function	
Decreased capacity, decrease sensation of filling	Increased likelihood of urinary symptoms and UI
Increased detrusor overactivity, decreased bladder contractile function, increased residual urine	
Urethra	
Decreased closure pressure in women	Increased likelihood of stress and urgency UI
Prostate	
Increased incidence of benign prostatic obstruction, increased incidence of prostate cancer	Increased likelihood of urinary symptoms and UI
Decreased estrogen (women)	Increased incidence of urogenital atrophy-related symptoms Increased incidence of recurrent urinary tract infections
Increased nighttime urine production	Increased likelihood of nocturia and nighttime UI
Altered central and peripheral neurotransmitter concentrations and actions	Increased likelihood of lower urinary tract dysfunction
Immunosenescence	Increased likelihood of recurrent urinary tract infections
Increased prevalence of white matter hyperintensities in brain	Increased prevalence of severe urge /urgency, link to cognitive impairment and impaired mobility

Gibson W et al. Neurol and Urodynamics 2021;40:38

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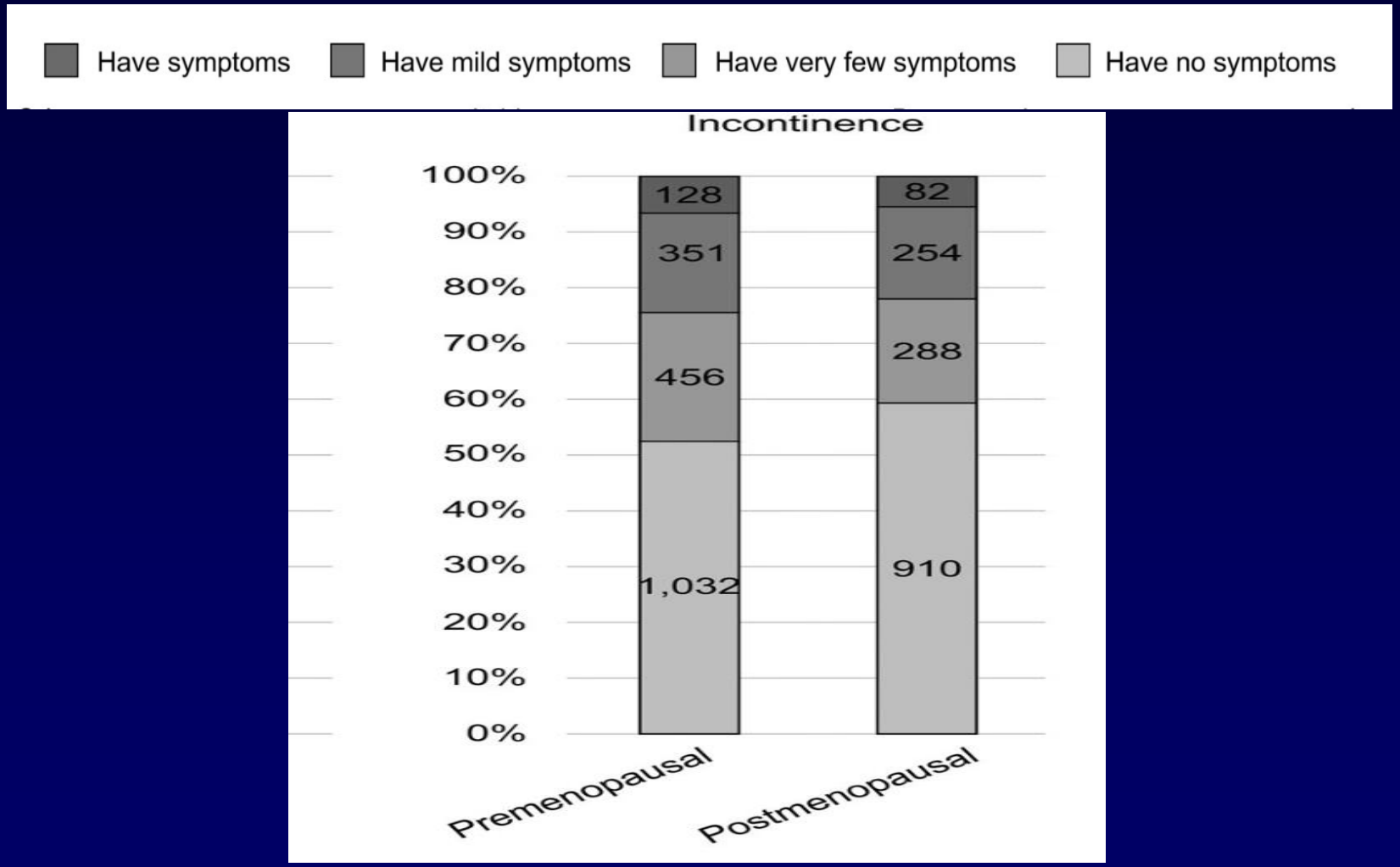
Medications that can cause or contribute to urinary incontinence in frail older adults

Medications	Effects on continence
Alpha-adrenergic agonists	Increase smooth muscle tone in urethra and prostatic capsule, may precipitate obstruction, urinary retention, and related symptoms
Alpha-adrenergic antagonists	Decrease smooth muscle tone in the urethra and may precipitate stress urinary incontinence in women
Angiotensin-converting enzyme inhibitors	Cause cough that can exacerbate UI
Anticholinergics	May cause impaired emptying, urinary retention, and constipation that can contribute to UI. May cause cognitive impairment and reduce effective toileting ability
Calcium channel blockers	May cause impaired emptying, urinary retention, and constipation that can contribute to UI May cause dependent edema which can contribute to nocturnal polyuria
Cholinesterase inhibitors	Increase bladder contractility and may precipitate urgency UI
Diuretics	Cause diuresis and precipitate UI
Lithium	Polyuria due to diabetes insipidus
Opioid analgesics	May cause urinary retention, constipation, confusion, and immobility, all of which can contribute to UI
Psychotropic drugs	May cause confusion and impaired mobility and precipitate UI
Sedatives	Anticholinergic effects, confusion
Hypnotics	
Antipsychotics	
Histamine I receptor antagonists	
Selective serotonin reuptake inhibitors	Increase cholinergic transmission and may lead to urinary UI
Sodium–glucose cotransporter 2 (SGLT2) inhibitor	Glycosuria and polyuria, increased propensity to urinary tract infection
Others	
Gabapentin	Is associated with impaired bladder emptying
Glitazones	Can cause edema, which can lead to nocturnal polyuria and cause nocturia and nighttime UI
Nonsteroidal anti-inflammatory agents	

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Gibson W et al. Neurourology and Urodynamics 2021;40:38

Almost equal % of premenopausal vs post-menopausal Japanese females report UI (20-25%)

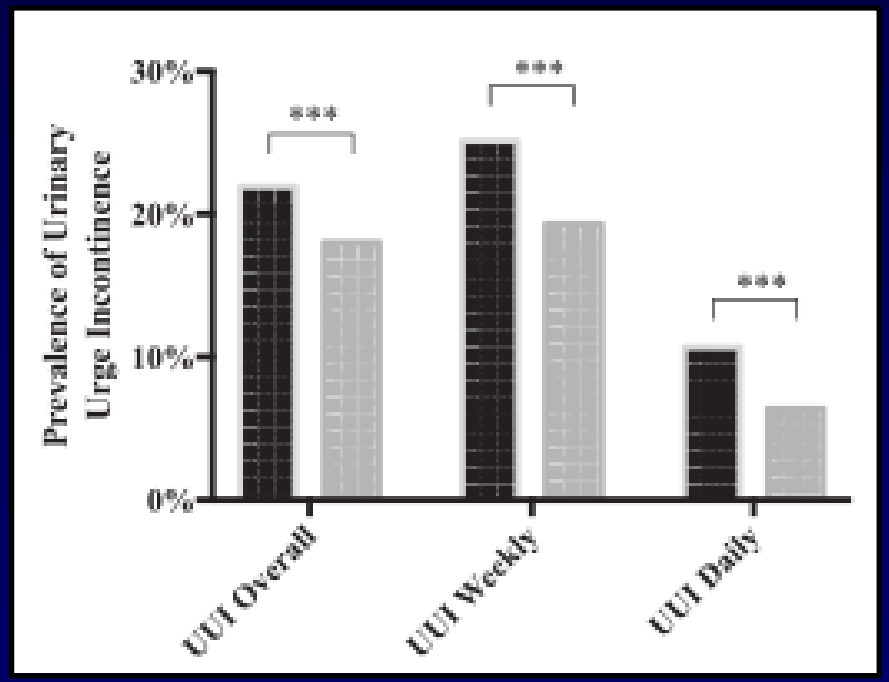


Ohta, Climacteric, 23: DOI:10.1080/13697137.2020.1768236

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Socio-economic status and UI

UUI is more common in females from families with income less than 2X the Poverty Income Ratio (NHANES)



Associations exist between Social Determinants of Health and UUI

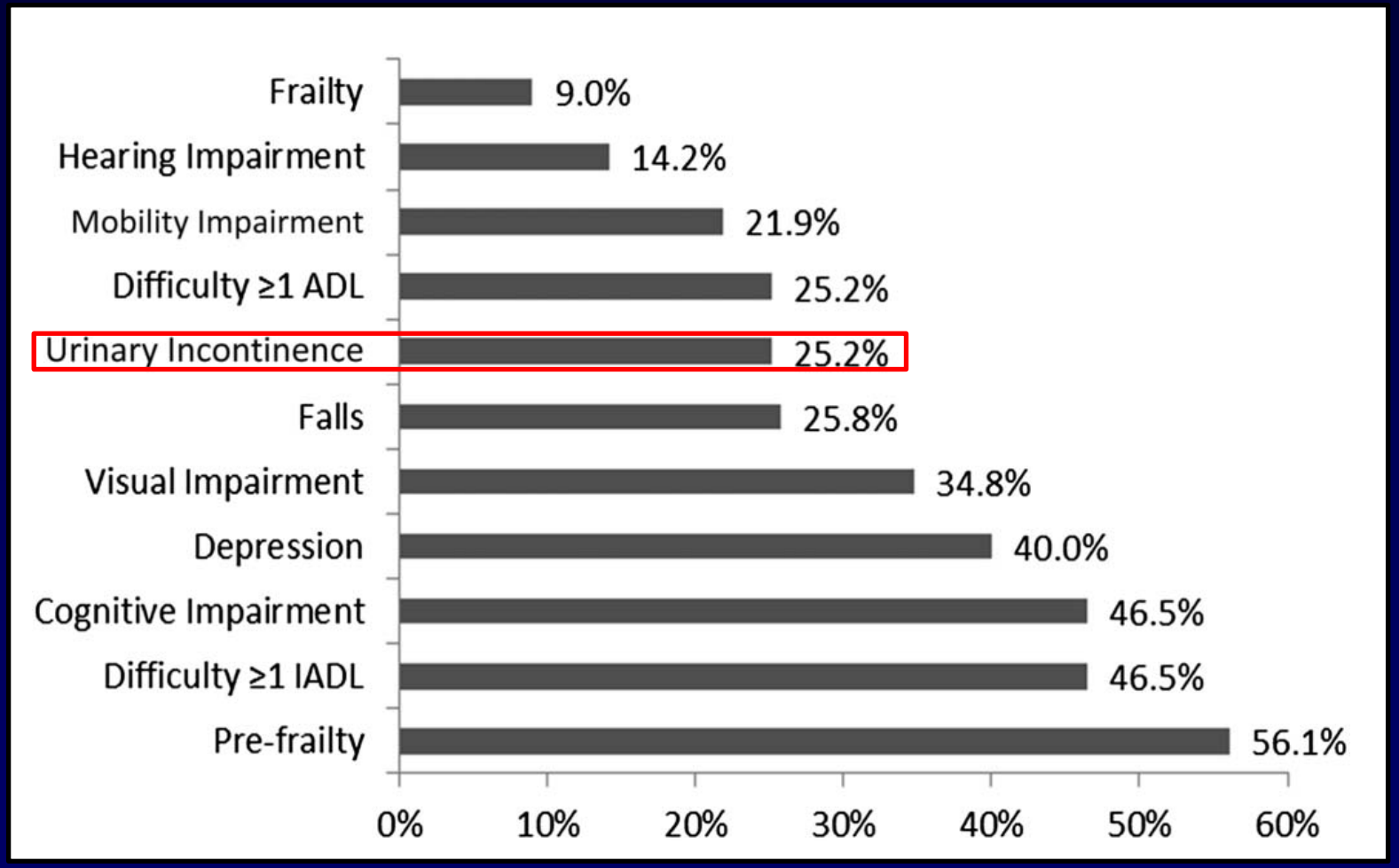
Adverse SDOH	aOR*	95% CI	P-Value
Problems with physical environment	1.38	1.31–1.45	<.001
Problems with economic circumstances	1.37	1.28–1.47	<.001
Problems with access to care	1.22	1.12–1.32	<.001
Food insecurity	1.22	1.10–1.35	<.001
Low education and literacy	1.16	1.07–1.27	<.001
Problems with social environment	1.09	1.09–1.16	<.001

*Models are adjusted for age, race, ethnicity, smoking, alcohol use, obesity, stroke, and dementia.

Lee JA et al. J Urol 2020;203:379
Scharp D et al. J Am Med Dir Assoc 2025;26:105819

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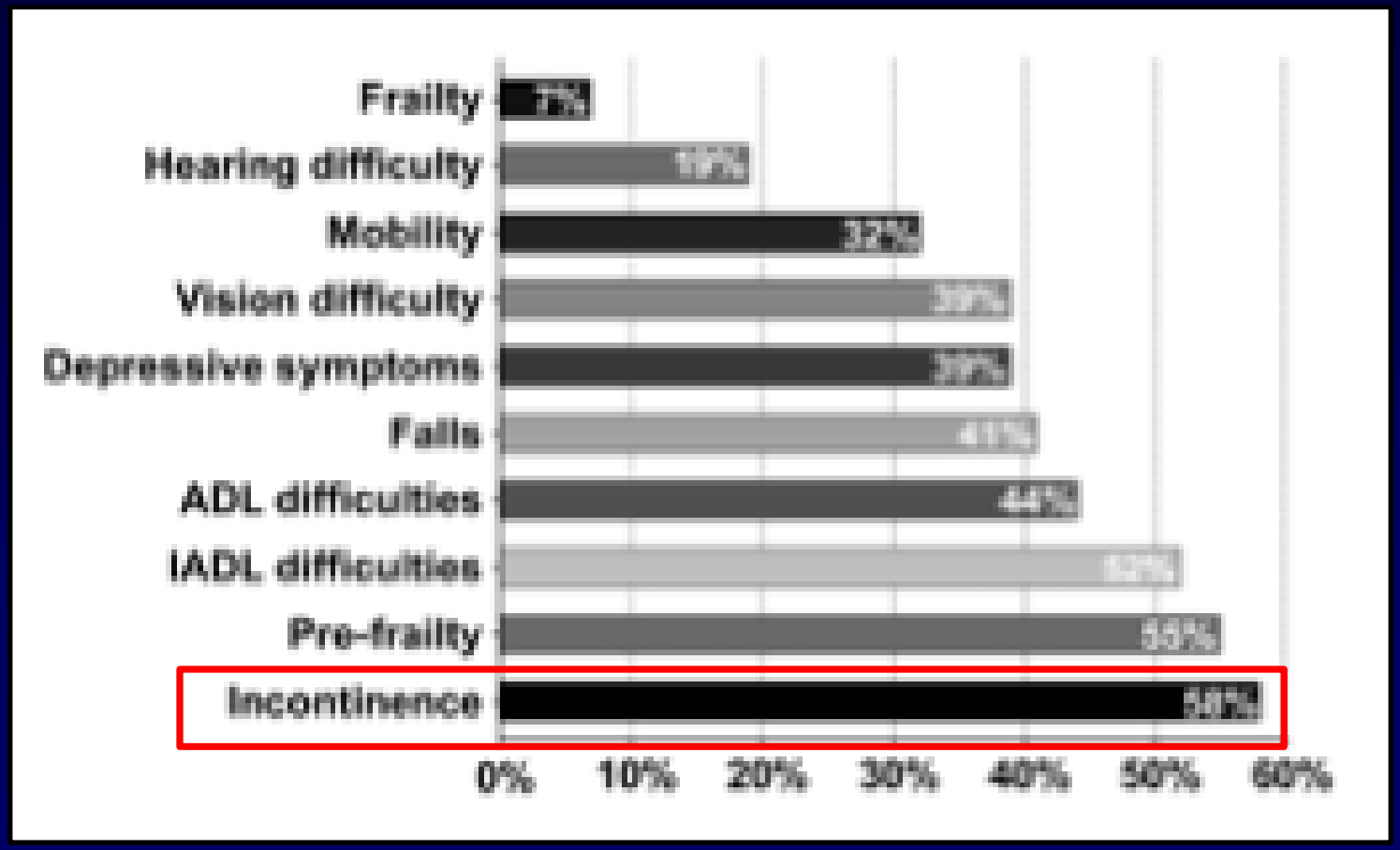
Urinary incontinence occurs often in older males with HIV: UCSF SCOPE cohort ($\bar{m}$ age-57, 94% male)



Greene M et al. JAIDS 2015;69:161

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Urinary incontinence occurs in a majority of older adults with HIV and *mild NCD* (m̄-64yo, 90% male)



Hosaka KRJ et al. JAGS 2019;67(9):1913

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Prevalence of UI (among other geriatric syndromes) is similar (30%) in older males and females with HIV in Kampala, Uganda

Geriatric syndromes	All N = 500	Male N = 256	Female N = 244	P-value
Depressive symptoms, n %	51 (10.2)	27 (10.6)	24 (9.8)	0.79
Frailty, n % Prefrail Frail	229 (45.8) 45 (9.0)	118 (46.1) 13 (5.1)	111 (45.5) 32 (13.1)	0.01*
Cognitive impairment, n %	364 (72.8)	161 (62.9)	203 (83.2)	<0.01*
Falls, n %	206 (41.2)	87 (34.0)	119 (48.8)	<0.01*
Urinary incontinence, n%	146 (29.2%)	75 (29.3)	71 (29.1)	0.96
Malnutrition, n % At risk of malnutrition Malnourished	 66 (13.2) 17 (3.4)	 39 (15.3) 9 (3.5)	 27 (11.1) 8 (3.3)	 0.37
Functional Impairment (SPPB), n % high (10–12) Low (0–9)	 327 (65.4) 173 (34.6)	 188 (73.4) 68 (26.6)	 139 (57.0) 105 (43.3)	 <0.01*
IADL Impairment, n %	71 (14.2)	35 (14.3)	36 (14.1)	0.91
Number of Geriatric syndromes 0 1 ≥2	 28 (5.6) 98 (19.6) 374 (74.8)	 15 (5.86) 64 (25.0) 177 (69.1)	 13 (5.33) 34 (13.9) 197 (80.7)	 0.006*
Geriatric Syndromes, mean(sd)	3 (2.0)	2 (2.0)	3 (2.0)	<0.01*

Mbabazi P et al. HIV/AIDS Res and Palliative Care 2024;16;455

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Older Mexican females w HIV report urinary incontinence (occasionally or fully) 2x more often than males

Variable	Women *N* = 114	Men *N* = 502	*p*-value
Basic activities disability (≥1), *n* (%)	34 (29.82%)	111 (22.11%)	.103
Barthel Index Score, median (IQR)	100 (95-100)	100 (100-100)	.07
Instrumental activities disability (1), *n* (%)	15 (13.15%)	43 (8.56%)	.18
Number of Lawton-Brody activities with disability, median (IQR)	1 (1-2)	2 (1-3)	.08
Mobility disability (≥1), *n* (%)[a]	34 (36.9%)	143 (35%)	.82
Any disability, *n* (%)	43 (44.3%)	161 (39.1%)	.41
Polypharmacy, *n* (%)[a]	67 (74.4%)	308 (75.6%)	.91
Number of drugs, median (IQR)[a]	4 (2-6)	4 (3-6)	.819
Sensorial impairment, *n* (%)[a]	62 (67.3%)	292 (72.3%)	.37
Cognitive impairment, *n* (%)	30 (26.3%)	49 (9.8%)	<.001
Mini-Mental State Examination, median (IQR)	26 (23-29)	28 (26-29)	<.001
Falls, *n* (%)[a]	41 (44.6%)	108 (26.4%)	<.001
Number of Falls, median (IQR)[a]	0 (0-1.2)	0 (0-1)	<.001
Geriatric depression symptoms, median (IQR)	2 (1-5)	1 (0-3)	<.01
Depressive symptoms, *n* (%)	26 (22.8%)	59 (11.7%)	.003
Urinary incontinence, *n* (%)[a]			.07
Incontinent	4 (4.3%)	9 (2.2%)	
Occasional	19 (20.6%)	55 (13.4%)	
Continent	69 (75%)	345 (84.3%)	
Fecal incontinence, *n* (%)[a]			.94
Incontinent	1 (1%)	4 (<1%)	
Occasional	8 (8.7%)	41 (10%)	
Continent	83 (90.2%)	364 (88.9%)	
Frailty phenotype, *n* (%)			.005
No frailty	63 (55.26%)	322 (64.14%)	
Pre frailty	40 (35.08%)	161 (32.07%)	
Frailty	11 (9.64%)	16 (3.18%)	

Caro-Vega Y et al. J Gerontol A 2026;81(6):doi 10.1093/gerona/glag107

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30-40% of females w HIV noted urinary incontinence and 10-15% were significantly affected (Canada, m̄ age-45)

Question	No	Yes, but not bothered	Somewhat bothered	Moderately bothered	Bothered quite a bit
1. Frequent urination	113 (63.8)	16 (9.0)	22 (12.4)	9 (5.1)	17 (9.6)
2. Urge urinary incontinence (1 missing value)	125 (71.0)	11 (6.3)	20 (11.4)	5 (2.8)	15 (8.5)
3. Stress urinary incontinence	111 (62.7)	23 (13.0)	18 (10.2)	10 (5.6)	15 (8.5)
4. Drops of urinary incontinence	132 (74.6)	9 (5.1)	16 (9.0)	6 (3.4)	14 (7.9)
5. Difficulty emptying bladder	151 (85.3)	5 (2.8)	11 (6.2)	4 (2.3)	6 (3.4)
6. Pain or discomfort in lower abdominal or genital area	145 (81.9)	1 (0.6)	18 (10.2)	7 (4.0)	6 (3.4)

Larouche M et al. Int'l Urogynecology J 2021:32:353

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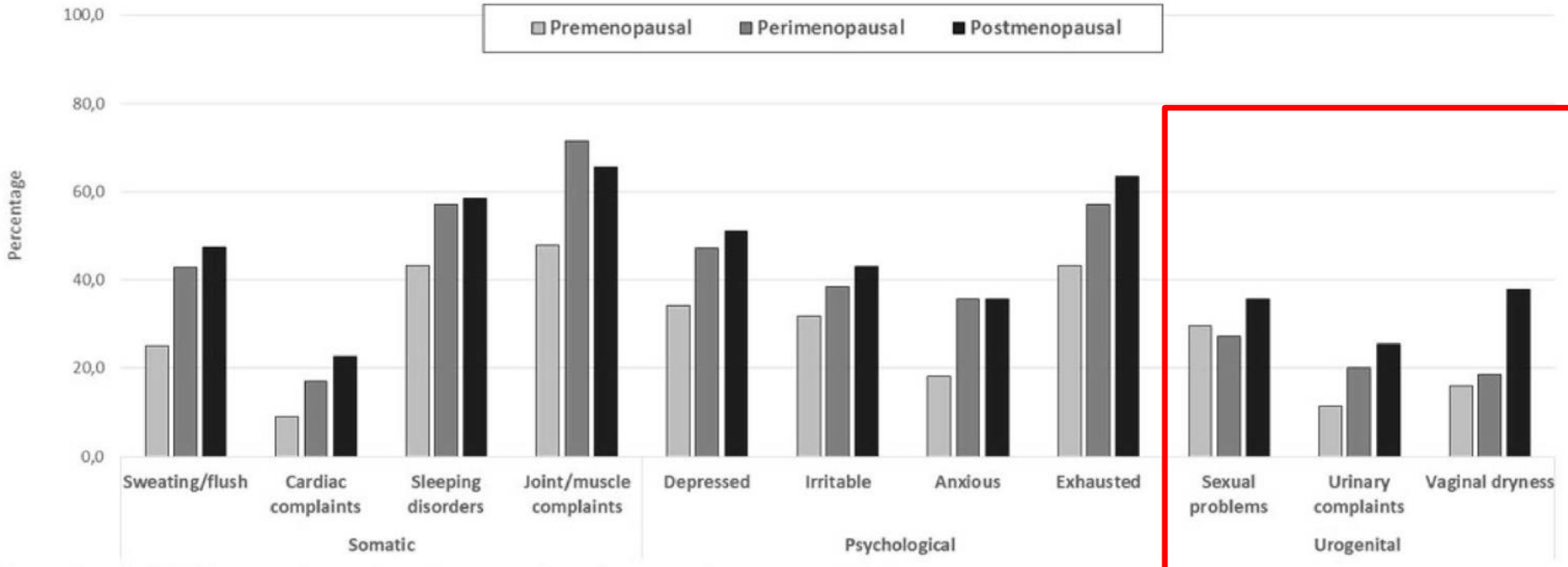
More premenopausal (46%) than postmenopusal (36%) females w HIV had bothersome LUTS (m̄ age-45)

Characteristics		All N = 177	UDI-6 < 25 N = 125	UDI-6 ≥ 25 N = 52	P value
Age		44.1 (37.2–50.6)	43.4 (35.2–49.5)	48.3 (39.7–52.6)	**0.04**
Body mass index (32 missing values)		28.2 (23.0–33.2)	27.3 (22.2–31.7)	31.3 (24.7–34.2)	0.05
Ethnicity	- White	59 (33.3)	38 (30.4)	21 (40.4)	0.23
	- Black	75 (42.4)	55 (44.0)	20 (38.5)	
	- Aboriginal	26 (14.7)	17 (13.6)	9 (17.3)	
	- Other	17 (9.6)	15 (12.0)	2 (3.8)	
Country of origin	- Canada	94 (53.1)	62 (49.6)	32 (61.5)	**0.03**
	- HIV-endemic country	71 (40.1)	51 (40.8)	20 (38.5)	
	- Other	12 (6.8)	12 (9.6)	0 (0.0)	
Parity		2 (0–3)	2 (0–3)	2 (1–3)	0.07
Menopausal status (2 missing values)	- Premenopausal	117 (66.1)	93 (74.4)	24 (46.2)	**0.001**
	- Perimenopausal	14 (7.9)	6 (4.8)	8 (15.4)	
	- Postmenopausal	44 (24.9)	25 (20.0)	19 (36.5)	
Smoking status	- Current smoker	56 (31.6)	35 (28.0)	21 (40.4)	0.24
	- Past smoker	31 (17.5)	22 (17.6)	9 (17.3)	
	- Never smoker	90 (50.8)	68 (54.4)	22 (42.3)	
Sexually active (8 missing values)	- Yes	106 (59.9)	79 (63.2)	27 (51.9)	0.48
	- No	63 (35.6)	43 (34.4)	20 (38.5)	
Number of sexual partners since last visit** (if sexually active) (8 missing values)	- 1	92 (86.8)	71 (89.9)	21 (77.8)	0.20
	- 2+	14 (13.2)	8 (10.1)	6 (22.2)	
Condom use (if sexually active) (8 missing values)	- Every time	45 (39.5)	32 (39.0)	13 (40.6)	0.20
	- Most of the time	11 (9.6)	8 (9.8)	3 (9.4)	
	- Sometimes	20 (17.5)	17 (20.7)	3 (9.4)	
	- Never	30 (26.3)	22 (26.8)	8 (25.0)	
UIQ-7 score		0.0 (0.0–4.8)	0.0 (0.0–0.0)	9.5 (0.0–47.6)	**< 0.001**

Larouche M et al. Int'l Urogynecol J 2021;32:353

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Urogenital symptoms did not differ according to menopausal status in females with HIV



Number and percentage [n (%)] of women who experienced menopausal symptoms according menopausal status

Pre-menopausal (N=44)	11 (25%)	4 (9%)	19 (43%)	21 (48%)	15 (34%)	14 (32%)	8 (18%)	19 (43%)	13 (30%)	5 (11%)	7 (16%)
Peri-menopausal (N=70)	30 (43%)	12 (17%)	40 (57%)	50 (71%)	33 (47%)	27 (39%)	25 (36%)	40 (57%)	19 (27%)	14 (20%)	13 (19%)
Post-menopausal (N=137)	65 (47%)	31 (23%)	80 (58%)	90 (66%)	70 (51%)	59 (43%)	49 (36%)	87 (64%)	49 (36%)	35 (26%)	52 (38%)
P-value	**0.032**	0.124	0.198	**0.032**	0.145	0.402	0.078	0.058	0.415	0.129	**0.002**

Suarez-Garcia, BMC Women's Health 2021

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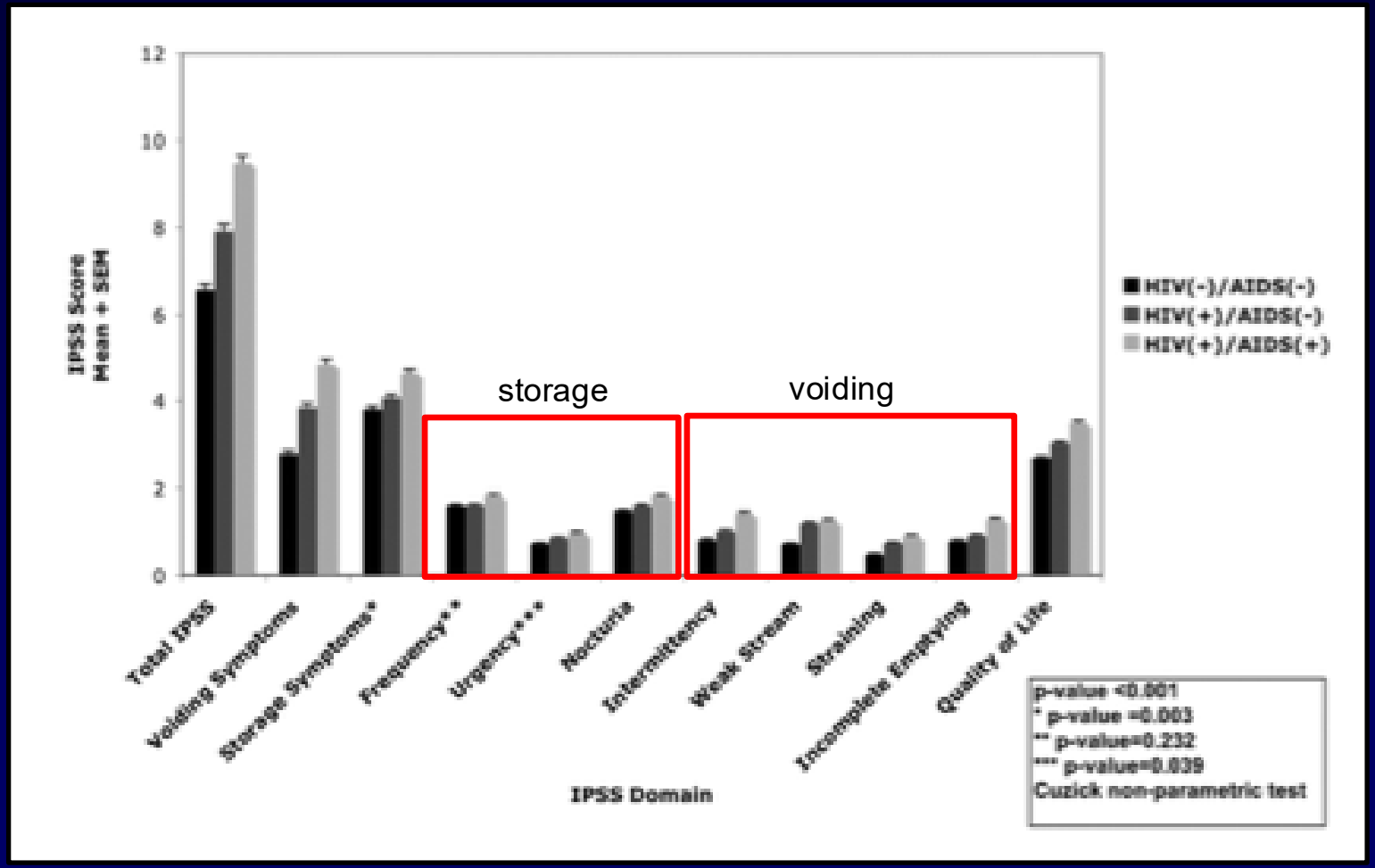
HIV clinically related and ART response factors are *not* associated with urinary symptoms in females with HIV (m̄ age -45)

Characteristics		All N = 177	UDI-6 ≥ 25 N = 23	UDI-6 < 25 N = 59	P value
Time since HIV diagnosis (years)		15.8 (11.4–19.6)	15.1 (11.0–19.6)	16.9 (13.5–19.6)	0.15
CD4 count (cells/mm^3) (7 missing values)		621 (410–785)	596 (410–779)	660 (413–794)	0.45
CD4 category (7 missing values)	- ≤ 200	15 (8.5)	11 (8.8)	4 (7.7)	0.64
	- 201-350	15 (8.5)	9 (7.2)	6 (11.5)	
	- > 350	140 (79.1)	100 (80.0)	40 (76.9)	
Suppressed HIV viral load (8 missing values)		132 (74.6)	92 (73.6)	40 (76.9)	0.54
Any AIDS-defining illness diagnosis (28 missing values)		26 (14.7)	17 (13.6)	9 (17.3)	0.48
Any HIV-related conditions (28 missing values)		41 (23.2)	28 (22.4)	13 (25.0)	0.69
Hepatitis C (HCV) status (15 missing values)	- HCV active	14 (7.9)	7 (5.6)	7 (13.5)	0.076
	- HCV cleared	17 (9.6)	9 (7.2)	8 (15.4)	
	- Never infected	131 (74.0)	95 (76.0)	36 (69.2)	
Hepatitis B (HBV) status (14 missing values)	- HBV ever	10 (5.6)	7 (5.6)	3 (5.8)	1.0
	- Never infected	153 (86.4)	106 (84.8)	47 (90.4)	
Current antiretroviral regimen† (1 missing value)	- INSTI-based	84 (47.5)	63 (50.4)	21 (40.4)	0.40
	- NNRTI	36 (20.3)	24 (19.2)	12 (23.1)	
	- NRTI	4 (2.3)	4 (3.2)	0 (0.0)	
	- PI	49 (27.7)	31 (24.8)	18 (34.6)	
	- None	3 (1.7)	2 (1.6)	1 (1.9)	

Larouche M et al. Int'l Urogynecol J 2021;32:353

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Males w HIV had higher I-PSS scores on symptoms of voiding (intermittent voiding , straining, incomplete voiding) or urine storage (frequency, urgency, nocturia) compared to males w/o HIV



Breyer BN et al. J Urol 2011;185(5):1710

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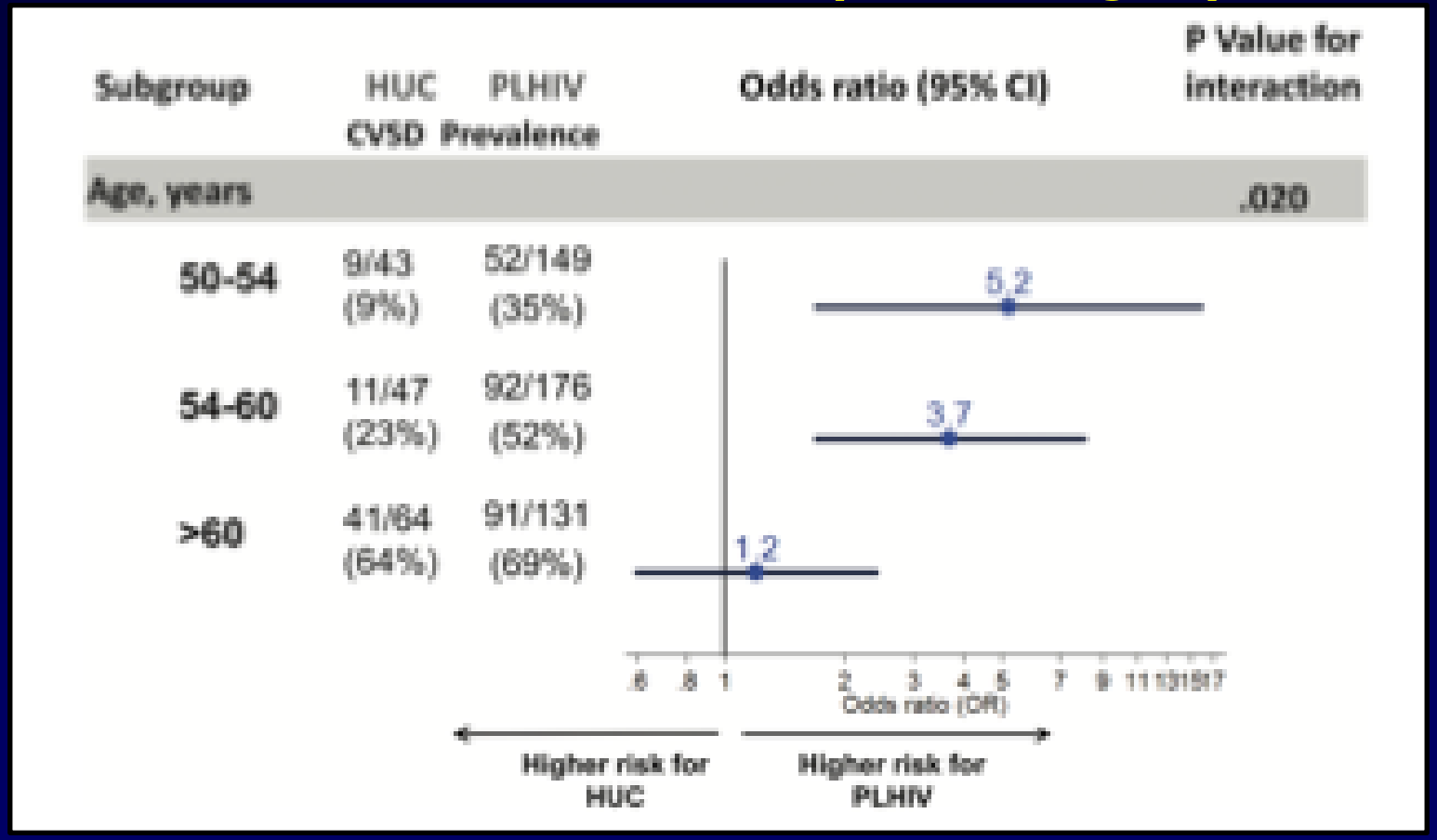
Total brain white matter hyperintensity burden is associated with cognitive and functional decline *as well as urinary incontinence* in the general population

Outcome	Estimate	Standard Error	P-Value	Odds Ratio (95% Confidence Interval)
Moderate to severe incontinence	0.49	0.26	.06	1.63 (0.98–2.71)
Short Physical Performance Battery score ≤9	0.56	0.25	.03	1.75 (1.07–2.86)
Tinetti total score ≤24	0.69	0.27	.01	1.98 (1.17–3.38)
Tinetti gait score ≤10	0.58	0.25	.02	1.79 (1.11–2.9)
Gait velocity ≤0.69 m/s	0.88	0.34	.01	2.4 (1.23–4.68)
Time down stairs ≥6.2 seconds	0.52	0.33	.11	1.68 (0.88–3.21)
Trail Making Test Part B score ≥148	0.51	0.30	.09	1.66 (0.93–2.97)
Stroop-Color-Word score ≤24	0.61	0.27	.03	1.85 (1.08–3.16)
California Computerized Assessment Package sequential reaction time ≥633	0.51	0.25	.04	1.67 (1.03–2.7)

Wakefield DB et al. JAGS 2010;58:275

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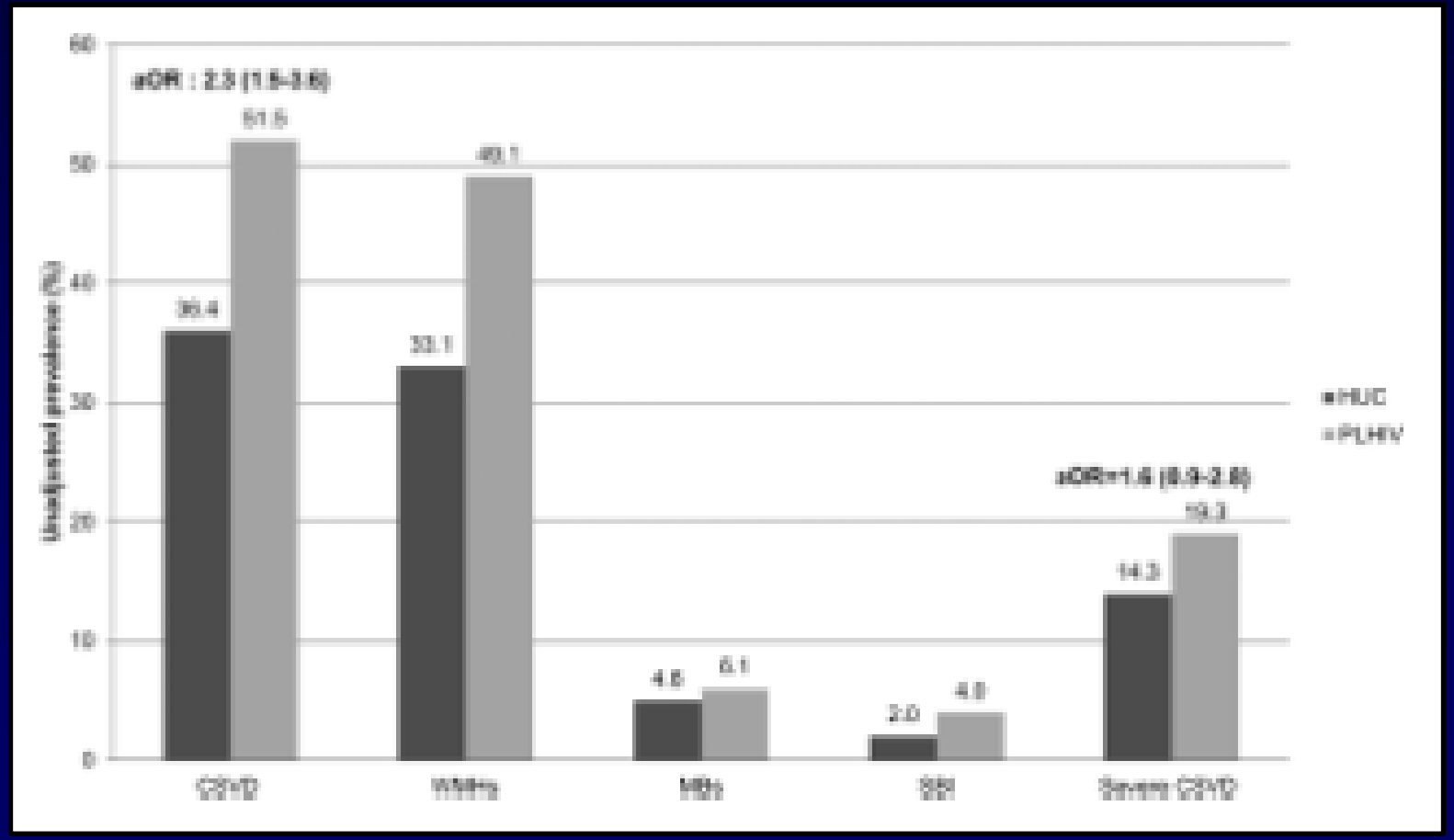
Cerebral small vessel disease is more common in adults with HIV compared to those w/o HIV (50-60 yo)



Moulignier A et al. CID 2018;66:1762

JF

Silent cerebral small-vessel disease disease (assoc with *decreased cognition, impaired gait, and frailty*) occurs 2X as often in older adults with HIV



Moulignier A et al. CID 2018;66:1762

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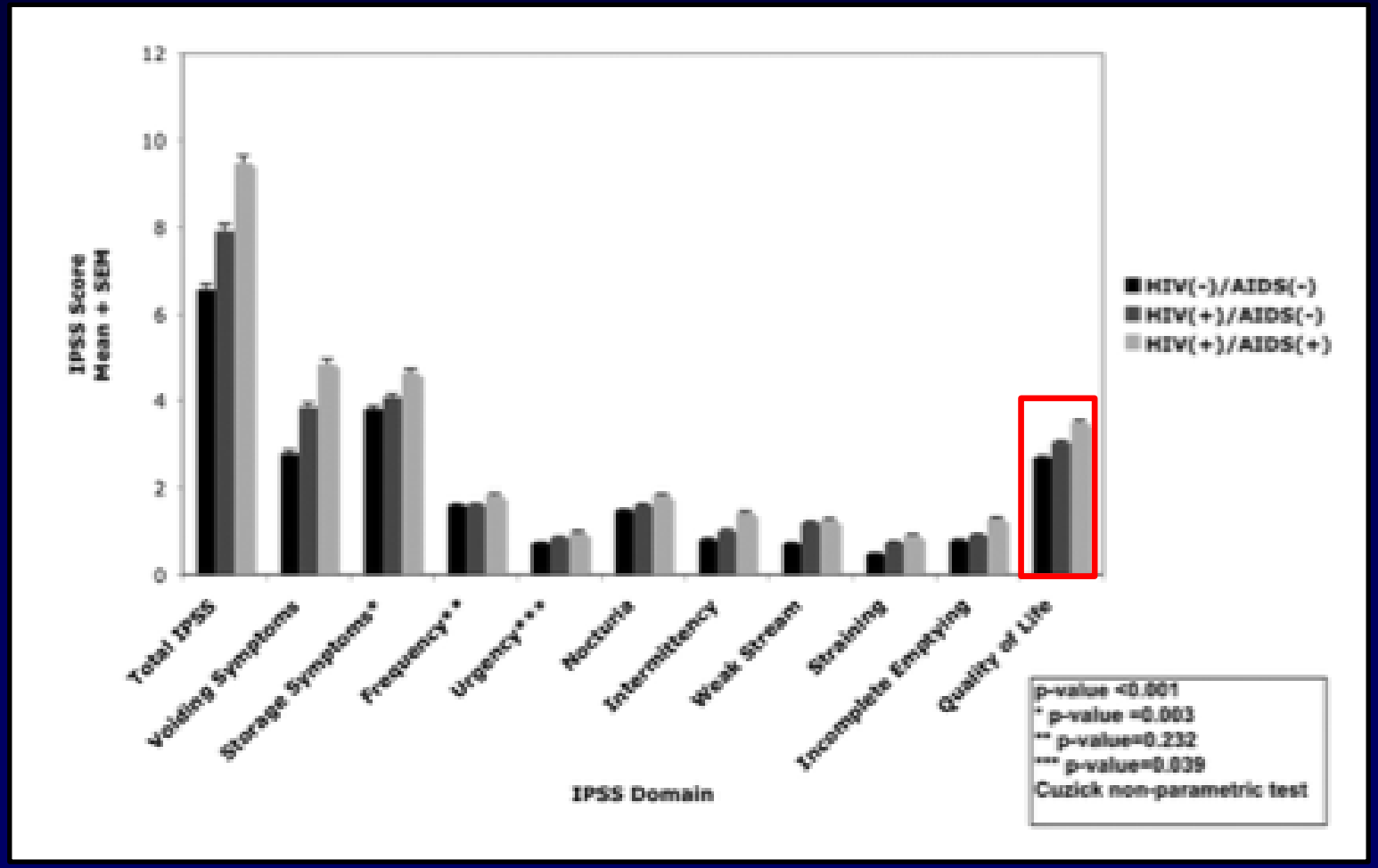
In older Ugandan males and females urinary incontinence, and other geriatric syndromes, are a significant cause of *lower QoL* (24->120: poor->good QoL)

Geriatric syndromes	Overall score mean (SD)
SPPB/Physical function	
Low	80.2 (9.3)
Moderate/High	90.2 (7.7)/91.0 (7.7)
p-value	<0.0001
Frailty	
Pre-frail	89.7 (8.0)
Frail	80.7 (7.5)
p-value	<0.0001
Sarcopenia	
No	90.5 (7.9)
Probable/Confirmed/Severe	89.6 (6.7)/87.0 (10.5)/85 (11.1)
p-value	0.015
History of falls, ≥ 1 in the past years	88.8 (8.2)
p-value	0.003
Urine incontinence stress/urge	87.8 (8.5)
p-value	0.007
Activities of daily living scale (IADL)	
Dependence	85.0 (9.4)
Autonomy	91.0 (7.7)
p-value	<0.0001
Nutrition status	
At-Risk	88.4 (8.1)
Malnourished	81.1 (10.3)
p-value	<0.0001
Cognitive impairment <24 points	89.8 (8.2)
p-value	0.247
Number of geriatric syndromes	−0.377
p-value	<0.0001

Senkoro E et al. Front in Pub Health 2024;12:1306151

JF

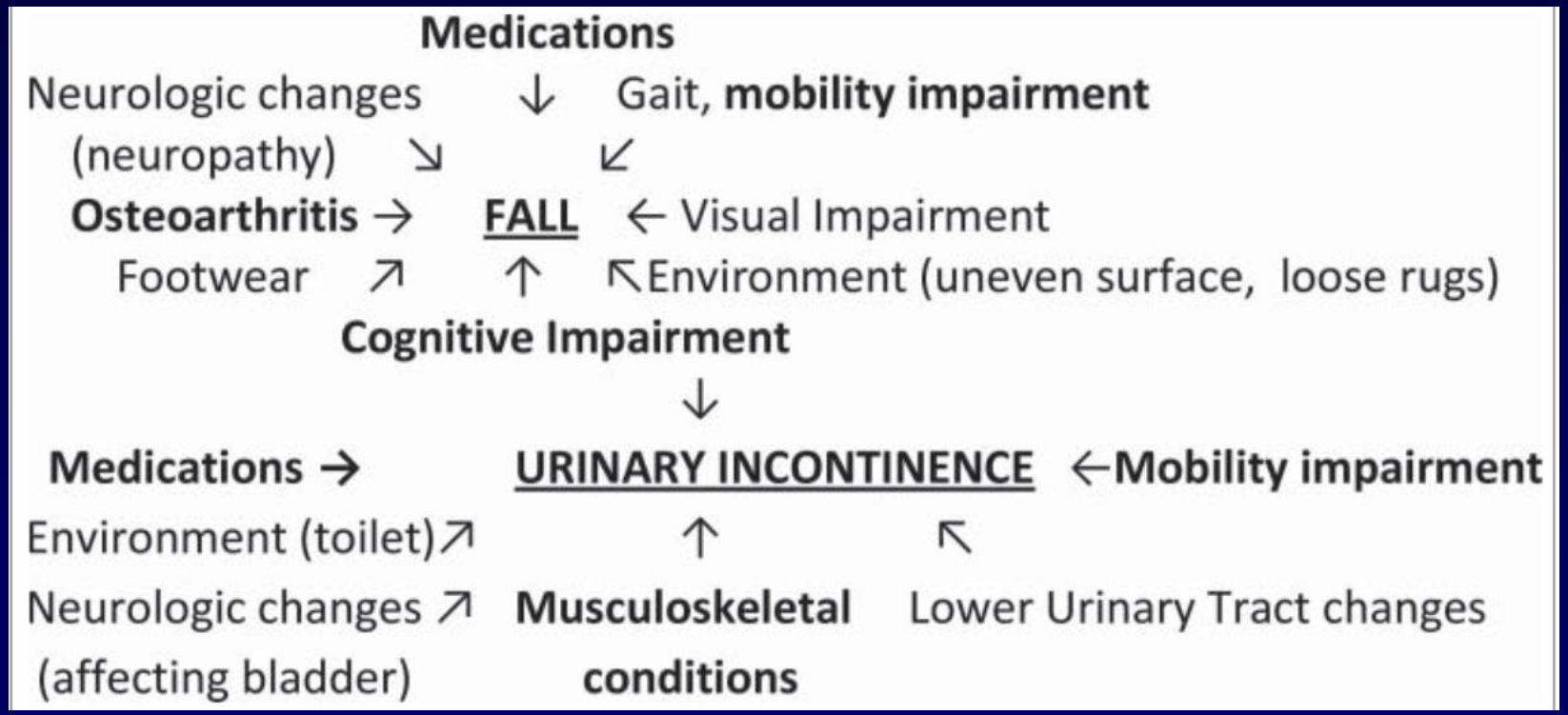
Males w HIV with worse prostate related symptoms (IPSS) had *lower QoL compared to males w/o HIV*



Breyer BN et al. J Urol 2011;185(5):1710

JF

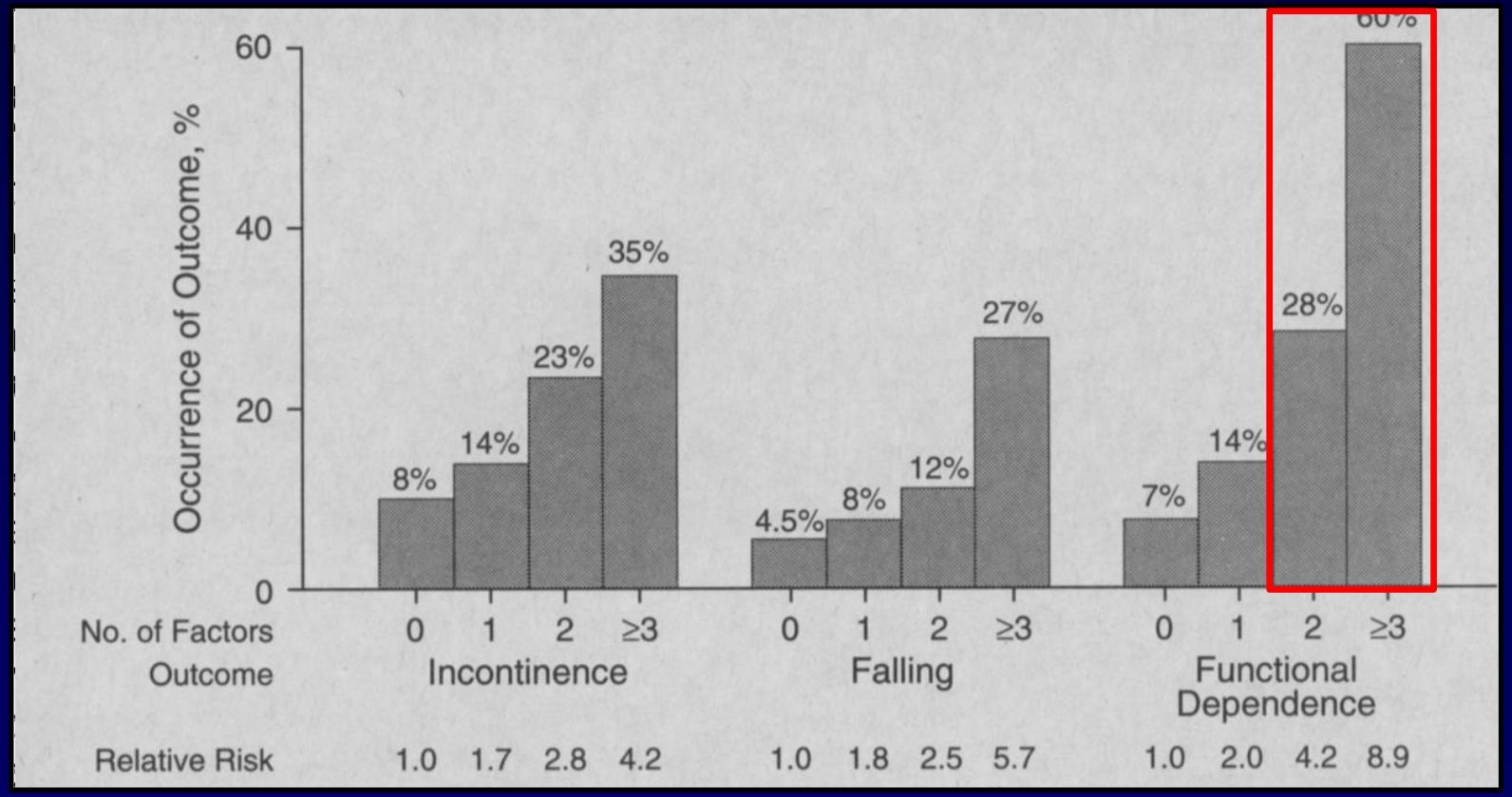
Geriatric syndromes are multifactorial and *share risk factors*: aging physiology, comorbidities, meds, environmental



Greene M, Virulence 2017

JF

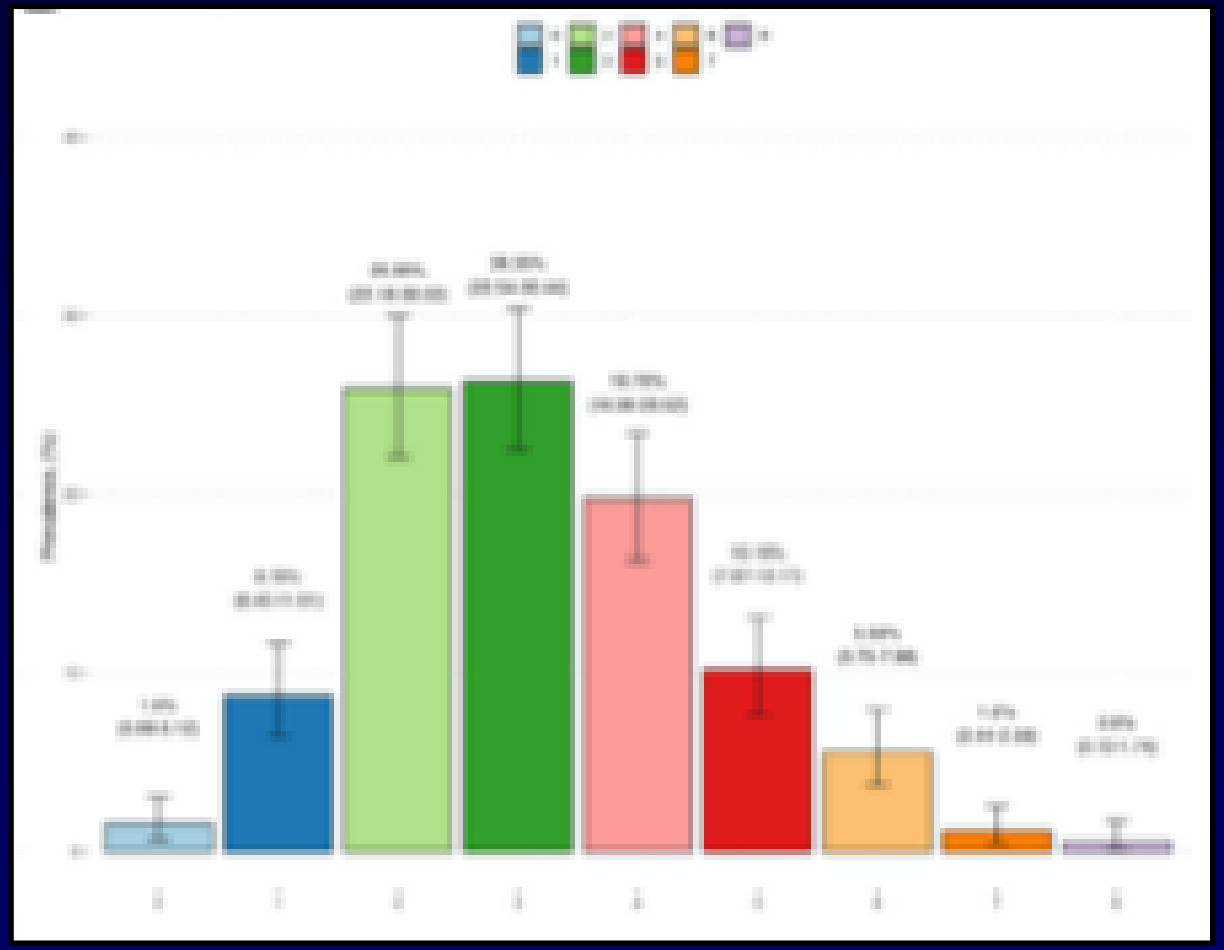
Increased #'s of the *same* predisposing factors (*impaired vision & hearing, anxiety, decr arm strength, slow stair stands*) are associated with increased prevalence of different geriatric syndromes



Tinetti M et al. JAMA 1995;273:1348

JF

Cumulative frequency of geriatric syndromes in older Mexicans with HIV (m-4)



Hernandez-Ruiz V et al. Lancet Reg Health Americas 2023;22:doi 10.1016/lana.2023.100502

JF

3/5 Fried Frailty Phenotype parameters are significantly associated with incontinence (HIV-uninfected)

Total (*n*=225)	Continent Group (*n*=165)	Incontinent Group (*n*=60)	Adjusted incontinence OR (95% CI)	*p*-Value
Unintended weight loss Lost <5% of body mass Lost >5% of body mass	 66% 35%	 74% 27%	 0.566 (o.278-1.153)	 .117
Self-reported exhaustion and fatigue Did not meet criteria Met criteria	 38% 62%	 15% 85%	 3.698 (1.615-8.469)	 .002
Physical activity expenditure Low Normal	 15% 85%	 17% 84%	 1.434 (0.568-3.619)	 .445
Gait speed 4.57 ~m gait test (s)	 5.5 ± 2.0	 6.6 ± 2.6	 1.240 (1.063–1.447)	 .006
Handgrip strength Handgrip strength (kg)	 22.5 ± 9.1	 18.7 ± 9.9	 0.934 (0.900-0.996)	 .042
Frailty status Prefrail Frail	 70% 30%	 57% 43%	 1.828 (0.956-3.495)	 .071

Corral-Perez J et al. J Gerontol A 2024;79(6):1

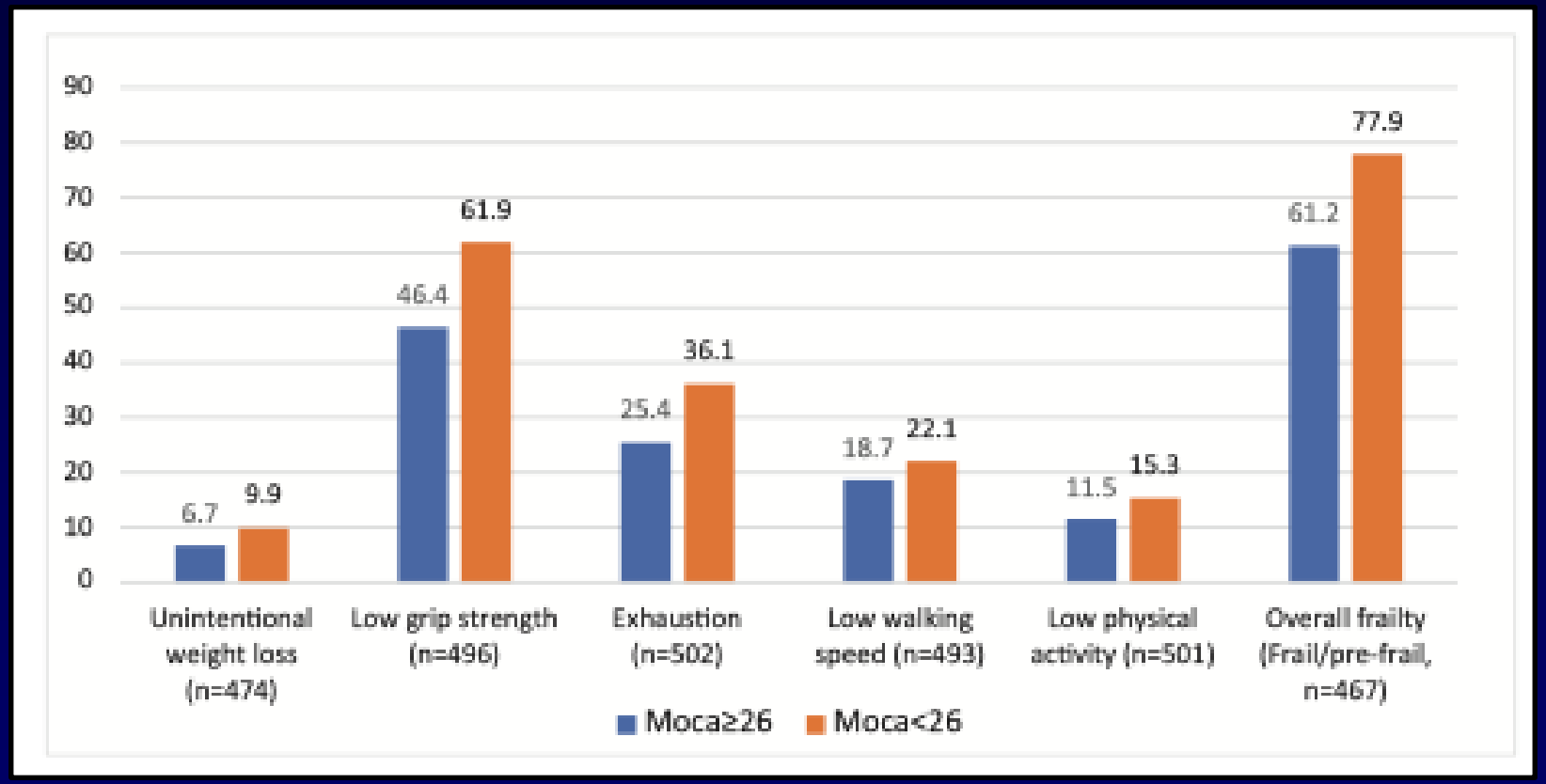
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Falls are associated with UUI: meta-analysis in HIV uninfected

- Any type of UI- OR 1.45 (1.36-1.54)
- UUI- 1.54 (1.41-1.69)
- SUI- 1.11 (1.00-1.23)

JF

Frailty (FP) is associated with impaired cognition (MoCA) in older adults with HIV: ANRS Cohort



Makinson A et al. AIDS 2023;37:2161

JF

Having more geriatric syndromes *but not* comorbidities was associated with worse WHO QoL scores (7 domains) in older SSA males & females w HIV (24->120:good->poor QoL)

Comorbidities

Clinical characteristics	Overall score mean (SD)
WHO stage III and IV	89.8 (8.2)
p-value	0.096
Current CD4, cells/μL	−0.070
p-value	0.121
Viral load <50 copies	90.1 (8.1)
p-value	0.905
Time on ART, years	−0.035
p-value	0.440
Body mass index	
<18.5	87.0 (9.4)
18.5–24.9	90.8 (8.0)
>=25	89.8 (8.0)
p-value	0.049
Co-morbidities ¶	
1 NCD	90.3 (8.5)
≥ 2 NCDs	89.6 (7.6)
p-value	0.453
[illegible]	[illegible]
p-value	0.966
Bone density	
Osteopenia 1 <> 2.5	91.1 (7.8)
Osteoporosis < −2.5	87.5 (9.3)
p-value	0.0003
Disability yes	85 (11.7)
p-value	0.046
Depressive symptoms	85.4 (8.4)
p-value	<0.0001

Geriatric syndromes

Geriatric syndromes	Overall score mean (SD)
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JF

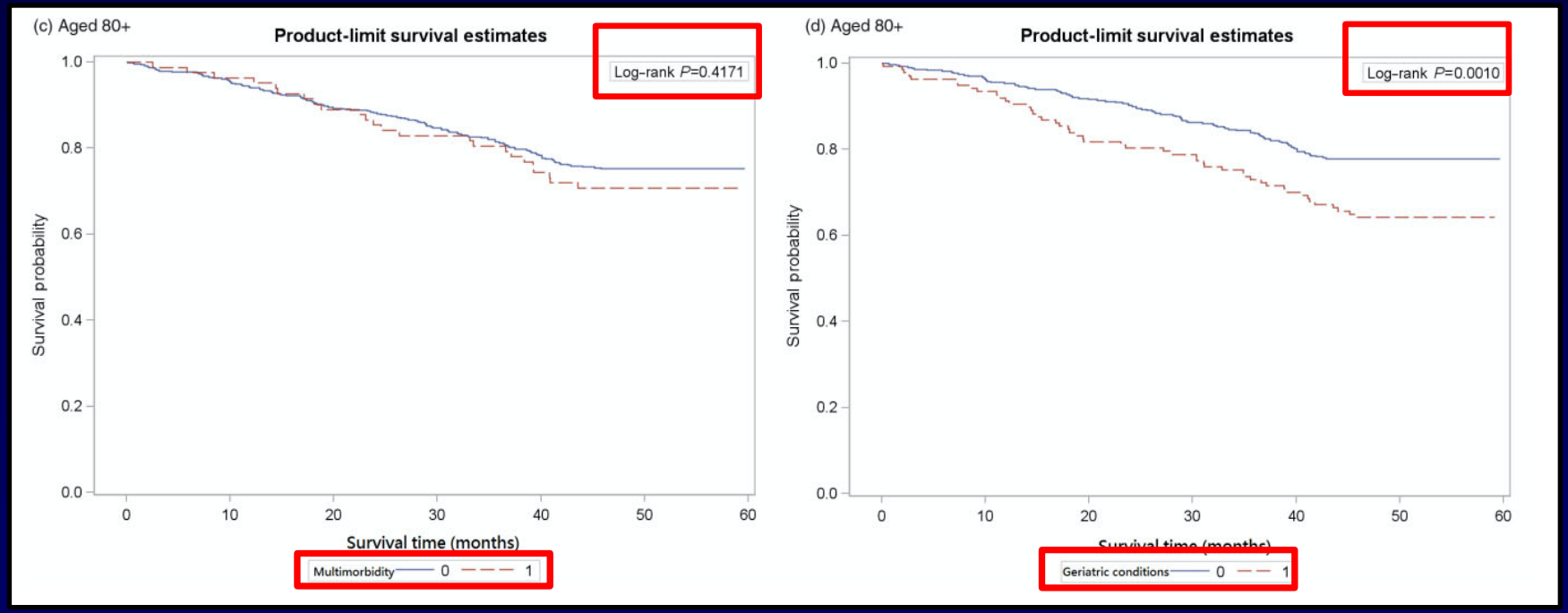
Senkoro E et al. Frontiers in Pub Health 2024;12:1306151

In the general > 80 yo population > geriatric syndromes impact survival more than co-morbidities: (<2 vs>2; *falls, impaired cognition, depression, urinary incontinence, pain)*

Comorbidities

Geriatric Syndromes

P=0.41



P=0.001

JF

Lu FP, Geri Gerontol Intl 2016;16:345

UI Types- Lower Urinary Tract Symptoms (LUTS)

Stress Incontinence
What it is: Urine leaks when physical movement or pressure puts stress on the bladder
***Common triggers*:** Coughing, sneezing, laughing, exercising, or lifting heavy objects
Cause*:* Weakened pelvic floor muscles or a damaged urinary sphincter that cannot keep the bladder tightly closed under pressure
Treatment: pelvic muscle exercises, pessaries, alpha-agonists??, surgical (urethral slings)

Urge Incontinence (also overactive bladder-OAB)
What it is: Experience a sudden, intense, and uncontrollable urge to urinate, often leading to leakage before reaching a bathroom
Common triggers: Hearing running water, drinking a small amount of fluid, or sudden positional changes
Cause*:* Involuntary contractions of the bladder's muscle (the detrusor muscle)
Treatment: behavioural***,*** antimuscarinics but NB anticholinergic toxicity, mirabegron, botox, neuromodulation, surgery

Overflow Incontinence
What it is*: C*annot completely empty the bladder, causing it to become overly full and leak or dribble constantly
***Common triggers*:** Constant minor leaking or dribbling throughout the day and night
Cause: Blockages in the urinary tract (such as an enlarged prostate) or weak bladder muscles that fail to push urine out effectively
Treatment: r/o constipation, medications, consider prostate related & alpha-blockers (males)

JF

Summary

- Urinary incontinence is common in middle-aged and older adult males and females living with HIV
- Urinary incontinence adversely affects QoL in adults living with HIV
- Urinary incontinence is often associated with other geriatric syndromes
- Geriatric syndromes often occur together
- Geriatric syndromes may adversely affect QoL, functional status and survival in older adults with HIV

91M HIV x 39 yrs: successful aging is a balance between comorbidities and syndromes

Geriatric Syndromes

Present	Absent
Impaired Vision	Falls
Polypharmacy (> 5 meds)	Cognitive impairment
	Frailty
	Incontinence
	Impaired mobility
	Impaired hearing, smell, neuropathy
	Disability (independent for ADLs/IADLs)
	Mood impairment
	Lack of socialization

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Knowledge & Action Gaps: UI is common and often keeps bad company

- NB If you don't take a temperature you won't find a fever
- Ask about incontinence; most persons, including adults with HIV, are reluctant to discuss this, b/o embarrassment and concern over double stigmatization
- Better understanding of SES biology and social networks interactions UI
- Better understanding of neural control of voiding (->new intervention options) & of emerging role of sarcopenia (esp in LE's) in UI
- Routinely ask about: falls, cognition, ADLs/IADLs, medications (DDI, anti-cholinergic burden, OTC), assess frailty (eg CFS or ***whatever metric you are comfortable with***) and ***include geriatric syndromes as relevant outcomes***
- Form a **locally** representative ***inter***disciplinary team (virtual is OK); involve community thought leaders and care providers, esp on studies ("we" don't know all the questions)

JF

What is important to older adults is optimizing quality of life over survival: health-span vs life-span



JF

Thank you



JF