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Lawrence J[1], Lukacz E[2], Nager C[2], Contreras R [1], Luber K[1]
1. Kaiser Permanente, Southern California, 2. University of California, San Diego

PREVALENCE OF FEMALE PELVIC FLOOR DISORDERS BY AGE AND RACE/ETHNICITY AMONG WOMEN IN A MANAGED HEALTH CARE POPULATION

Hypothesis / aims of study: Despite the significant impact that female pelvic floor disorders (PFD) have on quality of life, there are limited data on the prevalence of PFDs derived from psychometrically and biologically validated surveys. The aim of this study was to derive age-specific population estimates of the burden of female PFDs among women from a large, multi-ethnic managed health care population.

Study design, materials and methods: In this cross-sectional study, the rigorously validated 16-page Epidemiology of Prolapse and Incontinence Questionnaire (EPIQ) [1] in English and Spanish was mailed to an age-stratified random sample of 12,200 females members from a large managed health care organization in four strata: 25-39, 40-54, 55-69, and 70-84 years. The mailing included the EPIQ, a cover letter, a refusal/information postcard, a modest incentive, and a pre-paid business reply envelope. The initial survey mailing was followed by a reminder postcard, a second survey mailing, and a reminder telephone call to non-respondents. Among respondents, women screened positive for a PFD based on responses to survey questions and their reported degree of bother with symptoms as previously described.[1] Stress urinary incontinence (SUI), overactive bladder (OAB), pelvic organ prolapse (POP), and anal incontinence (AI) were assessed. Mixed urinary incontinence (MUI) was defined as those women with both SUI and OAB. Percentages, odds ratios (OR) and 95% confidence intervals (CI) are presented. ORs and 95% CIs for each PFD that differed significantly by racial/ethnic group are reported. The study protocol was reviewed and approved by the Institutional Review Board prior to implementation.

Results: Among the 4,401 respondents, their mean age of respondents was 57.0 +- 15.9 years and the racial/ethnic distribution was 60% White, 20% Hispanic, 10% Black, 8% Asian/Pacific Islander (A/PI), 1% Native American (NA), and 1% unknown. The racial/ethnic composition of the sample of women who completed the survey is consistent with the racial/ethnic composition of the health plan membership and the surrounding region.
The prevalence of PFDs among the respondents is shown in the table.

Age/PFD	N	SUI (%)	OAB (%)	MUI (%)	POP (%)	AI (%)
25-39 years	789	9.8	6.1	3.7	5.8	14.1
40-54 years	1,037	17.0	11.1	8.5	5.8	24.8
55-69 years	1,271	18.6	14.4	11.7	6.0	28.9
70-84 years	1,304	13.8	18.8	12.1	8.0	28.5

Controlling for age category and using White women (60% of the study sample) as the reference group, Black women were less likely to have SUI (OR = 0.60, CI 0.43 - 0.83) than White women. Hispanic (OR = 0.81 CI 0.66 - 0.98), Black (OR = 0.47, CI 0.36 - 0.63), and A/PI women (OR = 0.75, CI 0.57 - 0.99) were less likely to have AI than White women. NA women were more likely to have AI (OR = 2.05, CI 1.18 - 3.95) than White women. Hispanic women were more likely to have POP (OR = 1.37, CI 1.00 -1.87) than White women. There were no racial/ethnic differences among survey respondents for MUI or OAB.

Interpretation of results: Using this carefully validated instrument and a randomly selected population with significant racial/ethnic and age diversity, these data suggest that PFDs affect a significant proportion of the female population. The prevalence of PFDs increases with age for OAB, MUI, and POP, while the prevalence of SUI and AI peaks among 55-69 years olds. The prevalence of SUI, AI, and POP differed by race/ethnicity. The prevalence estimates for most PFDs are similar to previously published studies, except for AI, which is somewhat higher, possibly because flatal incontinence was included in AI in our study.

Concluding message: PFD represent a significant burden to women's health across a broad age range and prevalence of PFD varies by race/ethnicity and age.

[1]Epidemiology of Prolapse and Incontinence Questionnaire: Validation of a New Epidemiologic Survey (in press, *International Urogynecology Journal*)