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# AGE EFFECTS ON PELVIC FLOOR SYMPTOMS IN A COHORT OF NULLLIPAROUS PATIENTS

Hypothesis / aims of study

To investigate symptoms of pelvic floor dysfunction exclusively in nulliparous women.

Study design, materials and methods

80 community-dwelling nulliparous women, ages 21 – 70 were recruited through campus and community advertisements. Variables of interest included: age, menopausal status, smoking, hormone replacement (HRT), medical and surgical history. Pelvic floor support was assessed using the pelvic organ prolapse quantification system (POP-Q). BMI was calculated. Each participant completed validated pelvic floor questionnaires, including the PFDI-20, used to identify symptoms of pelvic floor disorders, and the PFIQ-7, measuring the impact of PFDs on quality of life. Sexual function was evaluated through the PISQ-12. Participants also completed the Short-Form Health Survey (SF-12). The effect of age on questionnaire scores was evaluated using Pearson's correlation coefficient. T-test was used to compare continuous variables, and Chi square was used to compare proportions. Logistic regression was used to assess predictors associated with pelvic floor symptoms.

Results

Mean age of participants was $44.6 \pm 13.5$ SD. The average body mass index was $28.3 \pm 7.2$ SD. The majority of the participants were Caucasian (81.25%). Thirty percent of the participants were postmenopausal, and 10% were on HRT. 52.5% were healthy, and the most common co-morbidity was hypertension (17.5%); 35% of participants had prior surgery, with hysterectomy being the most common (12.5%).

The average stage of prolapse as determined by POP-Q examination was stage 1 for all compartments. When women with "any symptoms" were compared to asymptomatic women, univariate analysis showed symptomatic women were older (p=0.0025), and more likely to be menopausal (p=0.045). There were no other differences between groups regarding HRT, smoking, race, medical history or BMI.

Age was associated with higher total PFDI-20 scores (r=0.41, p=0.002), corresponding to more bothersome pelvic floor symptoms. The effect of age on PFDI-20 subscales was as follows: POPDI (r=0.31, p=0.0051), CRDI (r=0.34, p=0.002), UDI-6 (r=0.4, p=0.0006). Age was associated with lower PISQ-12 scores, corresponding to worse sexual function with advancing age (r= -0.41, p=0.0012). There was no association between increasing age and PFIQ scores (p=0.12) When symptomatic patients were considered, unadjusted logistic regression showed age to be associated with increased odds of having pelvic floor symptoms (OR 1.066, 95% CI 1.019, 1.115). Menopausal status was also associated with increased odd of being symptomatic (OR 4.75, 95% CI 1.012, 22.7). When age and age by menopause were incorporated in the model, age remained a significant predictor of having pelvic floor symptoms (likelihood ratio 0.062, 95% CI 0.007, 0.13)

Interpretation of results

In this population of community-dwelling nulliparous women, age and menopausal status were associated with increased odds of having symptoms of pelvic floor disorders. Age was also associated with worsening sexual function.

Concluding message

In this population of community-dwelling nulliparous women, age and menopausal status were associated with increased odds of having symptoms of pelvic floor disorders. Age was also associated with worsening sexual function.

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| *Was the Declaration of Helsinki followed?* | Yes |
| *Was informed consent obtained from the patients?* | Yes |