Contraceptive adherence among women Veterans: Differences by race/ethnicity and contraceptive supply

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Background: Contraception, when used consistently and correctly, can prevent unintended pregnancy. As the number of women of reproductive age rises in the VA, contraceptive care is a growing priority, yet little is known about contraceptive use patterns among female patients. The objective of this study was to assess contraceptive adherence among women Veterans and examine the relationships between race/ethnicity and months of contraceptive supply dispensed with contraceptive adherence.

Methods: We used national VA databases to examine contraceptive adherence over a 12-month period among women Veterans aged 18-45 who received primary care from VA and had hormonal contraceptive (pills, patch, injection, or vaginal ring) coverage during the first week of FY08. Women who were sterilized or used a long-acting, highly effective contraceptive method in FY 2008 were excluded from analysis. We examined several adherence indicators including gaps of ≥7 days between refills, total months of contraceptive coverage over the year, and whether the woman had contraceptive coverage during the last week of FY 2008. For those women who had contraceptive coverage during the last week of FY 2008, we distinguished between coverage with gaps from continuous coverage over the year (perfect adherence). Descriptive statistics and multivariable models were used to examine the associations between race/ethnicity and months of contraceptive supply dispensed with adherence.

Results: Our cohort included 6,946 women on hormonal contraception: 47% were white, 6% Hispanic, 22% black, and 25% were other race or had missing race information. Most women (83%) consistently received 3-month supplies at each fill over the year, 4% consistently received 1-month supplies, and 13% received varied months of supply over the course of the year. Over 64% of women had at least one gap in coverage of ≥7 days. Only 22% of women received a full 12 months of contraception without any gaps (perfect adherence). Compared to whites, Hispanics were significantly more likely to experience gaps (64% versus 70%; p=0.02), and Hispanics and blacks received fewer months of contraceptive coverage (9.3 versus 8.9 and 9.0, p<0.001). Compared to women receiving 3-month supplies, those receiving 1-month supplies had a higher likelihood of a gap (63% versus 72%, p<0.001), fewer months of coverage (9.3 versus 6.9, p<0.001), and lower likelihood of perfect adherence (22% versus 11%, p<0.001). In multivariable Cox regression analysis, Hispanics remained significantly more likely to experience a gap than white women (HR:1.18, 95% CI:1.03–1.35). Women who received 1-month supplies also remained more likely to experience a gap than women who received 3-month supplies (HR:1.63, 95% CI:1.39-1.99). In the adjusted logistic regression model for perfect adherence, there were no statistically significant differences by race/ethnicity. Women receiving 1-month supplies were significantly less likely to achieve perfect adherence than those receiving 3-months supplies (OR:0.45; 95% CI:0.30 – 0.68).

Conclusions: Contraceptive adherence among women Veterans is poor. Interventions to enhance contraceptive adherence and lower the risk of unintended pregnancy among female Veterans are needed. Such strategies may include enhanced provision of long-acting, reversible methods that do not have adherence requirements (i.e., IUDs and implants) and/or dispensing more months of supply for hormonal methods.
Sexual function does not predict maintenance of sexual activity in midlife women

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**Background:** Frequency of sexual activity as well as sexual function decline as women age, but the reasons for these declines are not well understood. It is not known whether lower sexual function predicts future cessation of sexual activity -- in other words, does "poor quality" sex cause women to stop having sex? We hypothesized that sexually active women with worse sexual function would be less likely to engage in partnered sexual activity 4 years later.

**Methods:** Do Stage Transitions Result in Detectable Effects (STRIDE) is a longitudinal cohort study of women aged 40-65. Participants completed annual questionnaires regarding demographics, sex, menopause, and medical problems. Sexual activity was defined as any partnered activity, ranging from kissing to intercourse, in the prior 6 months. Body mass index (BMI) and medication use were abstracted from the electronic health record. In study year 4, women completed the Female Sexual Function Index (FSFI), a validated measure of sexual function in women. Characteristics of sexually active and inactive women in study year 4 and 8 were examined and compared using chi2, Fisher’s exact, and t-tests as appropriate. For the primary analysis, only women who reported sexual activity at study year 4 were included, and women who answered “no sexual activity in the prior 4 weeks” to one or more of the FSFI questions were excluded. Univariable logistic regression was used to examine the relationship between the predictors at baseline and the primary outcome, sexual activity four years later. Variables that were marginally significant (p<0.2) were entered into a multivariable model to assess the relationship between FSFI score and future sexual activity while controlling for other factors.

**Results:** Six hundred two women completed year 4 of the study. Sixty-eight (11.3%) women did not respond to the questions regarding sex. At study year 4, 354 (66.3%) women were sexually active. Of these women, 228 (85.4%) remained sexually active at study year 8, 39 (14.6%) were not, and 87 had missing data. The mean (sd) FSFI scores among sexually inactive and active women were 21.8 (3.8) and 22.3 (3.8) respectively. In univariable analyses, neither FSFI score nor sexual dysfunction (as defined by an FSFI score <27) were significant predictors of sexual activity at study year 8 (p=0.653 and 0.693 respectively). Women who remained sexually active were more likely to be Caucasian, partnered, healthier, earlier in the menopausal transition, and thinner (p=0.001, 0.037, 0.006, 0.045, and 0.007 respectively). Women who placed a higher importance on sex were more likely to remain sexually active (p=0.009). In the multivariable model, only race and menopausal status remained significant predictors of sexual activity (p=0.016 and 0.024 respectively); FSFI score remained a non-significant predictor (p=0.921), while importance of sex approached significance (p=0.079).

**Conclusions:** A majority of women who are sexually active at midlife continue to remain sexually active four years later, despite mean FSFI scores that fall into the “dysfunctional” range. Sexual dysfunction, as measured by the FSFI, is not associated with future cessation of sexual activity in midlife women. Reasons that women stop, or continue to have, sex during the midlife transition go beyond the “quality” of sex. Importance of sex may be a significant factor. Further longitudinal exploration of these reasons is necessary to fully understand women’s sexual practices in midlife and beyond.
When Guidelines Collide: Adherence to USPSTF Recommendations for Screening Mammography among Primary Care Specialties

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**Background:** In 2009, USPSTF guidelines for breast cancer screening changed significantly. New guidelines recommended biennial mammography in women starting at age 50. Conversely, ACS and ACOG continued to recommend yearly mammography starting at age 40. This new lack of consensus garnered significant attention in the media, and caused confusion and concern among patients and providers. The extent to which providers have implemented new USPSTF recommendations for breast cancer screening is unknown. The primary aim of this study is to examine and compare current attitudes and practices of internists, family physicians, and gynecologists with respect to screening mammography, in view of new USPSTF guidelines.

**Methods:** We conducted a cross-sectional study at a large academic medical center. Both resident and attending physicians in three primary care specialties (internal medicine, family medicine and gynecology) were electronically surveyed. Our survey was adopted with permission from National Survey of Primary Care Physicians' Cancer Screening Recommendations and Practices. Survey items assessed respondents' breast cancer screening practices in women of different ages and breast cancer risks. We used descriptive statistics to generate response distribution for each survey item. We used Chi-square tests to compare survey responses across specialties.

**Results:** Our overall response rate was 55% (316/575). An overall majority of providers in internal medicine (65%), family medicine (64%), and gynecology (92%) recommended breast cancer screening starting at age 40 (p-value <0.001) vs. age 50. Similarly, a majority of providers in internal medicine (77%), family medicine (74%), and gynecology (98%) recommended annual (vs. biennial) mammograms (p=0.003). Gynecologists were significantly more likely than both internists and family physicians to recommend initial mammography at age 40 vs. age 50 (p=0.003) and to recommend yearly vs. biennial mammography (p=0.003).

**Conclusions:** USPSTF guidelines for screening mammography have not been embraced by primary care providers across various specialties. This finding is most pronounced among gynecologists, who are significantly more likely than internists and family physicians to both initiate screening mammography at age 40 vs. age 50, and to screen annually vs. biennially. The extent to which these findings may be driven by patient vs. provider preference is an area for further research. These results suggest that unless further data on the risks and benefits of screening mammography becomes available, disparate practice patterns among specialties and individual providers are likely to continue. Breast cancer screening is an area of profound significance to patients and their advocates: in light of current clinical uncertainty, the importance of individualized risk-assessment and shared patient/provider decision-making is paramount.
Gender Disparities in Medical Students’ Comfort with Leadership Skills

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Background: Prior studies have found gender differences in leadership styles, as well as disparities in career achievement for women in medicine. It is unclear if these differences are attributable to tendencies present before entering medical training, or a function of the learning environment and culture of the medical profession.

Methods: We surveyed medical students from the Class of 2013-2016 at the Johns Hopkins School of Medicine at matriculation and then have thus far surveyed students from the Class of 2013-2014 two years later upon entry into the clinical years. The questionnaire focused on student comfort in performing various skills related to leadership, including negotiating for oneself, negotiating for another, giving negative feedback, accepting criticism, networking, socializing, working on a team, leading a team, and following on a team. Students rated their level of comfort performing each skill on a 5-point scale from 0 (not at all comfortable) to 4 (extremely comfortable). We used t-tests to assess differences by student gender in comfort for each leadership skill.

Results: Most (419/480) students completed the leadership survey at matriculation (87% response rate) and most of those eligible (211/240) from the Class of 2013-2014 completed the survey two years later (88% response rate). At matriculation, the mean student age was 23 years (range 21-38); 47% were female and 55% reported having no previous leadership training. At matriculation, there were no differences by student gender in self-reported comfort to negotiate for others but female students were significantly less likely to feel comfortable negotiating for themselves (2.49 male vs. 2.15 female, p<0.001). At matriculation, female students were significantly less comfortable giving negative feedback (1.93 male vs. 1.61 female, p=0.001), accepting criticism (2.53 male vs. 2.18 female, p=0.001), and networking (comfort 2.21 male vs. 1.95 female, p=0.009), but had similar levels of comfort as male students in socializing with strangers. There were no significant differences by student gender in self-reported comfort leading or being a follower on a team upon matriculation. Two years later, female students continued to feel less comfort negotiating for oneself, giving negative feedback, and networking; however at this point, female students also felt less comfortable working on (3.06 male vs. 2.85 female, p=0.042) and leading a team (2.82 male vs. 2.45 female, p=0.003).

Conclusions: Gender differences in perceived comfort with leadership skills exist at the time of matriculation to medical school and may get worse over time. The pattern of results in which females feel less comfortable negotiating for themselves but not for others, and feel less comfort in networking but not in socializing, suggests that these gender disparities are not underlying differences in skill but are instead related to differences in self advocacy. Interventions to improve female medical student comfort with their own leadership ability are urgently needed, and further study is necessary to assess the impact of such interventions on gender disparities.
BreastCARE: A Primary Care Clinic-Based RCT to Increase Breast Cancer Knowledge and Discussion of Risk and Lifestyle Behaviors

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Background: Despite the availability of breast cancer risk assessment tools and interventions for risk reduction, these tools are not well integrated into clinical practice. As a result, many women do not engage in a discussion of their breast cancer risk with their physician, which may lead to underuse of effective risk reduction interventions.

Methods: We conducted a randomized controlled trial comparing usual care to a tablet-PC based breast cancer risk assessment and education intervention (BreastCARE) delivered in a primary care setting. We enrolled women aged 40-74 years with no personal breast cancer history prior to their scheduled primary care visits at two clinics (one academic medical center, one safety-net) between June 2011 and August 2012, and randomized them to Intervention or Usual Care (UC) arms, stratified by race/ethnicity. The Intervention group completed the BreastCARE intervention at the clinic just prior to their visit and women and physicians received tailored risk reports. The UC group completed a telephone-based risk assessment after their visit. We categorized women as high or average risk based on family history using the Referral Screening Tool (RST) or breast cancer risk factors using the Gail/Breast Cancer Surveillance Consortium (BCSC) models. We contacted all women for a follow-up telephone survey one week after risk assessment. We used generalized estimating equations to account for clustering by physician, and to estimate differences at follow-up between Intervention and UC groups in above average knowledge of breast cancer risk factors (cut-point based on mean knowledge score in sample), and discussion of breast cancer risk and lifestyle behaviors with physician.

Results: A total of 1,278 women completed risk assessments and signed consent forms (596 Intervention and 665 UC) and 1,235 (97%) completed follow-up interviews (580 Intervention and 655 UC). The mean sample age was 56 years (SD=9) with 35% non-Latina White, 23% Latina, 22% African American, 18% Asian/Pacific Islander and 2% Native American/other. Demographic characteristics and breast cancer risk distributions were well-balanced between Intervention and UC groups. Nine percent of women qualified for high-risk referral based on RST score and 16% qualified based on Gail/BCSC models. Compared to women receiving UC, those in the Intervention group reported greater knowledge of breast cancer risk factors (69% vs. 55%), and more discussion of breast cancer risk (41% vs. 14%), exercise (75% vs. 61%) and weight (67% vs. 57%). Discussion of risk was greatest among women at highest risk for breast cancer who received the intervention (51% Intervention vs. 18% UC). Multivariable analysis results are presented in Table 1.

Conclusions: Our primary care based intervention increased discussion of breast cancer risk and lifestyle behaviors with physicians and improved women’s knowledge of breast cancer risk factors. Our findings support integration of health-related information technology in a clinic setting to enhance individualized risk assessment and promote patient-physician discussion, particularly for women at highest risk for breast cancer.