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Patient–Physician Gender Concordance and Weight-Related Counseling of Obese Patients

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Abstract

Background—Obesity affects approximately one third of Americans. Patient and provider characteristics such as gender may influence obesity care. Gender concordance has been associated with clinical practice patterns in chronic conditions such as hypertension and diabetes, but its role in obesity care is unknown.

Purpose—The purpose of this study was to investigate the association of patient–physician gender concordance with weight-related counseling among obese adults.

Methods—A cross-sectional study using the 2005–2007 National Ambulatory Medical Care Survey was conducted in 2010. Postvisit data from the clinical encounters of 5667 obese individuals and their physicians were analyzed to determine the association between patient–physician gender concordance (categorized using patient gender as the reference point as female gender-concordant, male gender-concordant, male gender-discordant and female gender-discordant) and three types of weight-related counseling (diet/nutrition, exercise, and weight reduction).

Results—Diet/nutrition, exercise, and weight reduction counseling was provided to 30%, 23%, and 20% of obese patients, respectively. Patients in male gender-concordant patient–physician pairs had significantly higher adjusted odds of receiving diet/nutrition (OR 1.58; 95% CI: 1.05, 2.40) and exercise counseling (1.76; 95% CI: 1.13, 2.74) than female gender-concordant pairs. There were no significant differences in any form of weight-related counseling between female gender-concordant and gender-discordant pairs.

Conclusions—The findings of this study suggest that male patient–physician gender concordance is positively associated with diet/nutrition and exercise counseling.

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Introduction

Obesity affects one third of adults,¹ but less than 30% of obese individuals receive weight-related counseling^{2,3} despite the association between weight-related counseling and modest weight loss^{4,5} and data linking modest weight loss to lower blood pressure, cholesterol and blood glucose.⁵ While research has separately examined the association between patient- and physician-level characteristics and weight-related counseling,^{6–9} the impact of the interaction between patient and physician characteristics on weight-related counseling has received little attention to date. What research is available has focused on patient–physician race concordance and suggests that black obese patients receive less exercise counseling than white obese patients in visits to white physicians.¹⁰ This paper focused on patient–physician gender concordance.

Gender concordance is thought to influence patient–physician interactions by encouraging patient trust, improved communication and patient satisfaction.^{11–15} Gender concordance has been linked to medical decision making,¹¹ achievement of diabetes and hypertension treatment goals,¹⁶ and receipt of preventive counseling.^{13,17,18}

The goal of this study was to examine the association between patient–physician gender concordance and weight-related counseling in obese individuals. This study tested two hypotheses. First, that gender discordance would be negatively associated with weight-related counseling. The second hypothesis was that patients in male gender-concordant relationships would be less likely to receive weight-related counseling than patients in female gender-concordant relationships, and equally likely to receive weight-related counseling as patients in gender-discordant relationships.

Methods

Study Design and Sample

Cross-sectional data from the 2005–2007 National Ambulatory Care Survey (NAMCS) were analyzed in 2010. The NAMCS provides encounter data from a nationally representative sample of non–federally funded, outpatient practices that were collected utilizing a stratified sampling strategy. Physician-level demographic variables were obtained from the NAMCS restricted access data at the National Center for Health Statistics Research Data Center. The sample included 5667 obese adults (aged 18 and older) and their physicians from general/family practice and internal medicine. Primary care providers were selected as they are more likely to provide routine care to obese individuals.

Study Variables

Predictor variables—The primary independent variable was patient–physician gender concordance. Patient–physician pairs were classified as gender concordant if the gender of the patient and physician was the same and classified as discordant if they were different. Patient–physician pairs were considered female gender-concordant if the patient and physician were both women, male gender-concordant if the patient and physician were both men, male gender-discordant if the patient was male and the physician was female, and female gender-discordant if the patient was female and the physician was male. Potential patient, physician, encounter, and patient ZIP code–level confounders were included in the models based on prior research suggesting an association with weight-related counseling (Appendix A, available online at www.ajpm-online.net).^{2,9,19–22}

Outcome variable—The primary dependent variable was weight-related counseling: weight reduction, diet/nutrition, and exercise. Weight-related counseling was considered to

have been recommended or provided to the patient if it was designated via checkbox on the NAMCS survey instrument.

Statistical Analysis

STATA software version 10 was used to conduct the analyses (STATA, version 10). Survey weights were applied using the “svy” commands to generate national estimates of the ambulatory population. Pearson’s chi-square testing was used to compare proportions. Multivariate logistic regression modeling was used to determine the relationship of the predictor variable and the outcomes of interest. Significance was set at a p-value of < 0.05.

Results

Study sample characteristics and overall weight-related counseling

The study sample characteristics are shown in Appendix B (available online at www.ajpm-online.net). Of 5667 patient–physician pairs, 55% were gender concordant and 46% were gender discordant. In most discordant pairs (85%) the physician was male. Thirty-nine percent of the study sample received at least one form of weight-related counseling. The most common form of weight-related counseling was diet/nutrition (30%), followed by exercise (23%), and weight-reduction counseling (20%).

Gender concordance and weight-related counseling

The frequency of weight-reduction counseling was similar among male gender-concordant, female gender-concordant and all gender-discordant pairs (Appendix B, available online at www.ajpm-online.net). Table 1 shows the AORs for each type of weight-related counseling according to patient–physician gender concordance. After adjustment for potential confounders, obese men in concordant pairs had 58% higher odds of receiving diet/nutrition counseling compared to obese women in concordant pairs (OR 1.58; 95% CI: 1.05, 2.40). The odds of exercise counseling was 76% higher among obese men in concordant pairs (OR 1.76; 95% CI: 1.13, 2.74) as compared to female gender-concordant pairs. There was no difference between weight-reduction counseling between male and female gender-discordant and female gender-concordant pairs. Appendix A (available online at www.ajpm-online.net) presents the full results of the multivariate analyses.

Discussion

This paper is unique because it examines the relationship between patient–physician gender concordance and weight-related counseling. Previous research links gender concordance to cardiovascular risk factor control¹⁶ and preventive health services^{17,18}; however, a link has not been established between gender concordance and weight-related counseling. Contrary to the stated hypotheses, patients seeing physicians of a different gender had similar odds of weight-related counseling as patients seeing physicians of the same gender. Also inconsistent with the hypotheses was the finding that obese men seeing male doctors were more likely to receive diet/nutrition and exercise counseling than obese women seeing a female doctor.

The finding that patients in gender-discordant relationships had similar odds of receiving weight-related counseling as their female gender-concordant counterparts may partially result from the perception that women are more likely to be dissatisfied with their weight.²³ Overweight women delay seeking health care due to embarrassment about their weight and wanting to avoid being lectured about their body weight.²⁴ Because women may be more sensitive about weight-related discussions, female physicians may choose to avoid weight-related discussions with their obese patients and male physicians may avoid weight-related

discussions with their obese female patients. Male physicians may also be reluctant to provide weight-related counseling to obese women if they perceive that women have unrealistic weight-loss goals, as previously reported in the literature.²⁵

It is unclear why obese male patients seeing male physicians had higher odds of receiving weight-related counseling than obese women seeing a female physician. Perhaps societal norms linking physical fitness to masculinity leads male physicians to view obese men as more receptive to weight-related counseling and contributes to open dialogue about weight in male gender-concordant relationships.

The findings of this study should heighten clinicians' awareness of how the personal attributes of physicians and patients may influence obesity care. Future studies should objectively measure weight-related communication (e.g., direct observation, audio tapes) in gender-concordant and gender-discordant patient–physician encounters, and explore the potential role of physicians' explicit and implicit attitudes regarding obesity and gender, in weight-related counseling for obese patients. In addition, future studies should examine outcomes (e.g., weight loss) of weight-related counseling provided among different gender groups.

This study has some limitations. First, the data are cross-sectional, which may have led to underestimation of weight-related counseling if they were provided during a visit not captured by the data set. However, gender groups should not have been differentially affected. Second, the cross-sectional design limits causal inferences. Third, it was not possible to control for the duration of the patient–physician relationship, which may affect delivery of weight-related counseling. However, the analysis adjusted for whether the patient was previously seen by any provider in the practice and there was no observed association between this variable and weight-related counseling. Fourth, it is not possible to know the extent, quality, or impact (e.g., referral for additional evaluation) of the weight-related counseling patients received or the rationale for which it was provided. Fifth, it was not possible to include other measures which might differentially affect weight-related counseling in gender-concordant and gender-discordant pairs such as physician knowledge, physician attitudes toward obesity management, physician obesity or gender stereotypes. Finally, missing data for some covariates (e.g., physician race) decreased the sample size from 5667 to 3969 in the adjusted analyses. Although missing data could potentially introduce bias in the analyses, they should not have differentially affected the gender-concordant and gender-discordant groups and likely biased the results toward the null.

Conclusion

Patient–physician gender concordance may help improve physician practice patterns related to weight-related counseling among obese male patients. Low prevalence of weight-related counseling among all obese patients, regardless of their gender or the gender of their physician, suggests that efforts to improve obesity care are needed among patients and physicians of both genders.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Adjusted association between weight-related counseling and patient–physician gender concordance

	Weight-reduction counseling	Diet/nutrition counseling	Exercise counseling	
	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Gender concordance status	Concordant female	1.00 (ref)	1.00 (ref)	1.00 (ref)
	Concordant male	1.04 (0.68, 1.57)	1.58 (1.05, 2.40)*	1.76 (1.13, 2.74)*
	Discordant female	1.28 (0.77, 2.15)	1.41 (0.88, 2.28)	1.53 (0.92, 2.58)
	Discordant male	1.27 (0.93, 1.76)	1.07 (0.86, 1.33)	1.17 (0.89, 1.56)

Note: All models were adjusted for the following covariates: age, race, insurance, region, comorbidity risk status, physician age, physician race, visit type, time spent with doctor, median household income, and percentage of residents within a ZIP code with a high school diploma.

* Point estimates significant at $p < 0.05$.