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Use of medical, surgical and complementary treatments among women with fibroids

Vanessa L. Jacoby [a,*], Alison Jacoby [a], Lee A. Learman [e], Michael Schembri [a], Steven E. Gregorich [c,d], Rebecca Jackson [a,b], Miriam Kuppermann [a,b,d]

[a] Department of Obstetrics, Gynecology & Reproductive Sciences, University of California, 1635 Divisadero St, Suite 600, San Francisco, CA, USA
[b] Epidemiology & Biostatistics, University of California, San Francisco, CA, USA
[c] Medicine, University of California, San Francisco, CA, USA
[d] Medical Effectiveness Research Center for Diverse Populations, University of California, San Francisco, CA, USA
[e] Department of Obstetrics and Gynecology, Indiana University School of Medicine, USA

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ABSTRACT

Objective: To examine the use of medical management, uterus-preserving surgery (UPS), and complementary treatments among women with uterine fibroids.
Study design: Prospective cohort study of 933 premenopausal women ages 31–54 years with symptomatic fibroids who participated in the Study of Pelvic Problems, Hysterectomy, and Intervention Alternatives (SOPHIA) for an average of 4.3 years (SD 2.5 years). Incident use of fibroid treatments was determined through annual interviews. Linear regression models were used to compare changes in fibroid-related symptoms among women who underwent UPS versus those who did not undergo surgery.
Results: Participants were racially and ethnically diverse, with a mean age of 43 years. During study follow-up, 531 participants (57%) did not undergo UPS or hysterectomy, 250 (27%) had at least one UPS, and 152 (16%) underwent hysterectomy. Complementary and alternative treatments were commonly used, including exercise (45%), diet (34%), herbs (37%), and acupuncture (16%): participants reported significant symptom improvement and few side effects with these interventions. In multivariable linear regression models, women who did not undergo surgery during the study reported improvement in dyspareunia ($p < .001$), pelvic pain ($p < .001$), and menstrual cramps ($p < .001$). However, women who underwent UPS reported greater overall resolution of "pelvic problems" compared with women who did not have surgical treatment (difference in change score 1.18 on a four-point Likert scale, $p < .001$).
Conclusion: UPS are effective treatments for women with fibroids, but many women use hormonal or complementary treatments and report significant symptom improvement without surgical intervention.

Introduction

Uterine fibroids occur in approximately 25% of reproductive-age women. Hysterectomy is the only definitive treatment, but many women seek uterus-preserving surgeries (UPS) such as myomectomy, uterine artery embolization and endometrial ablation, or a trial of medical management or complementary and alternative medicine (CAM) [1–5]. Despite the prevalence of fibroids and the myriad of available treatments, the current literature is limited in scope and quality to fully inform treatment decisions [6]. Several studies have reported the rate of an additional UPS or hysterectomy following a first UPS [7–11]. However, the likelihood of undergoing a first UPS or a hysterectomy among women with symptomatic fibroids is less well described and little is known about the effect of medications or CAM on fibroid-related symptoms [12,13].

We present an analysis of the use and effectiveness of UPS and nonsurgical treatments among 933 premenopausal women with symptomatic fibroids who were enrolled in the Study of Pelvic Problems, Hysterectomy, and Intervention Alternatives (SOPHIA). Our results will help guide and inform counseling for women who present with symptomatic fibroids, especially those who hope to avoid hysterectomy.

* Corresponding author. Tel.: +1 415 514 8299.
E-mail address: jacobyv@obgyn.ucsf.edu (V.L. Jacoby).

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Materials and methods

Details of the SOPHIA methods and measures have been described [14,15]. In brief, SOPHIA was a prospective cohort study of premenopausal women, aged 31–54 years, presenting to gynecologic clinics in the San Francisco Bay area. For this analysis, all SOPHIA participants who self-reported a diagnosis of symptomatic fibroids with abnormal uterine bleeding or pelvic pressure at the time of their baseline interview and completed at least one follow-up interview were included. Women with a history gynecologic cancer were excluded. Participants were enrolled from 1998 to 2004. Institutional review boards at all hospital sites approved the study and all women gave informed consent for participation.

SOPHIA participants underwent yearly face-to-face interviews for up to 8 years. The questionnaires assessed a broad array of pelvic symptoms associated with fibroids. Participants were asked how bothered they were in the last 4 weeks by dyspareunia, pelvic pain, pelvic pressure, bladder pain, frequent urination, low back pain, and menstrual cramps. Answers to these symptom questions were reported on a five-point severity scale which ranged from "not at all bothered" to "extremely bothered." We also utilized a global question: "To what extent would you say your pelvic problems have been resolved?" Answers were reported on a four-point scale which ranged from "not at all" to "completely."

Participants were asked about their use of surgical and nonsurgical treatments during the annual interviews. Myomectomy, endometrial ablation, or uterine artery embolization were classified as a UPS. Nonsurgical treatments were categorized as western medicine (hormonal contraception with estrogen and/or progestin, nonsteroidal analgesics, narcotic pain medication) or CAM (exercise, herbs, diet, acupuncture, physical therapy). For all western medicines, participants were asked whether they used a treatment specifically for bleeding and/or pelvic pain, and not for contraception or other symptoms. For CAM, participants were asked whether or not they were using the treatment for "pelvic problems." When a participant reported use of a treatment, two follow-up questions further explored her experience with the treatment: (1) "What effect did (*the treatment*) have on your symptoms?" and (2) How bothered were you by side effects of this treatment? For the effectiveness question, five response options ranging from "made them a lot better" to "made them a lot worse" were offered, and for the side effects question, four response options ranging from "a lot" to "not at all" were used.

Associations between baseline sociodemographic characteristics and symptoms with the most invasive surgical interventions that participants underwent during the study period were tested via chi-squares and ANOVAs. Nonsurgical treatment effect is reported as the percentage of women using the treatment who stated that treatment made their symptoms "a lot better." Side effects are reported as the percentage of women using the treatment who answered that side effects bothered them "a lot" or "some." We calculated the change in symptoms from baseline to the last interview among women who did not undergo surgery during the study period and among women who underwent any UPS. We compared the difference in change scores between these two groups of participants using linear regression in a model that controlled for age, race/ethnicity, educational attainment, year of recruitment, length of follow-up period, and entry into menopause. For questions that addressed changes in bleeding symptoms, we excluded women who reported the onset of menopause during the study period. All analyses were conducted using SAS for Windows, version 9.

Results

Among 1503 SOPHIA participants, this analysis includes the 933 women (62%) who had presented for care with symptomatic fibroids in the year prior to study enrollment and completed at least one follow-up interview. Participants were followed for an average of 4.2 years (SD 2.5 years): 9% were lost to follow-up after the baseline interview. Over the course of the study period, 531 participants (57%) did not undergo UPS or hysterectomy, 250 (27%) had at least one UPS, and 152 (16%) underwent hysterectomy with

Table 1
Baseline characteristics of SOPHIA participants with symptomatic fibroids by what procedure they underwent during the study period.

Characteristic	All *N* = 933 *N* (%)	No surgery *N* = 531 *N* (%)	Uterus-preserving surgery *N* = 250 *N* (%)	Hysterectomy *N* = 152 *N* (%)	p-Value
Age (mean (SD))	43 (4)	43 (4)	43 (4)	43 (3)	.34
Married/Living with partner	490 (54)	278 (55)	130 (53)	82 (54)	.88
Parity ≥1	242 (26)	140 (26)	55 (22)	47 (31)	.13
Race/Ethnicity					.29
Asian	107 (11)	67 (13)	27 (11)	13 (9)	
Black/African-American	280 (31)	155 (30)	79 (32)	46 (31)	
Latina, Latin American	112 (12)	73 (14)	28 (11)	11 (7)	
White	370 (40)	198 (38)	100 (40)	72 (48)	
Other	48 (5)	26 (5)	14 (6)	8 (5)	
Education					**.002**
High school or less	148 (16)	94 (18)	30 (12)	24 (16)	
Some college	295 (32)	186 (36)	69 (28)	40 (27)	
College degree or greater	479 (52)	242 (46)	150 (60)	87 (58)	
Household income					.52
<$25,000	108 (27)	64 (30)	25 (23)	19 (23)	
$25,001–50,000	121 (30)	63 (29)	32 (30)	26 (31)	
$50,001–100,000	121 (30)	63 (29)	36 (34)	22 (27)	
>$100,000	55 (14)	25 (12)	14 (13)	16 (19)	
Symptom					
Major depression (PHQ)‡	55 (11)	37 (13)	11 (8)	7 (11)	.43
Heavy or frequent bleeding	619 (66)	340 (64)	168 (67)	111 (73)	.11
Pelvic pain	536 (57)	310 (58)	141 (56)	85 (56)	.80
Fibroids cause pelvic pressure	450 (49)	253 (48)	122 (49)	75 (49)	.92
Dyspareunia on most or almost all days	47 (10)	29 (10)	10 (8)	8 (13)	.51