

GYNECOLOGY

Burnout and associated factors among members of the Society of Gynecologic Oncology

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OBJECTIVE: Burnout is specific to the work domain and in physicians is indicative of emotional exhaustion, depersonalization in relationships with coworkers and detachment from patients, and a sense of inadequacy or low personal accomplishment. The purpose of this study was to determine the burnout rate among gynecologic oncologists and evaluate other personal, professional, and psychosocial factors associated with this condition.

STUDY DESIGN: This study used a cross-sectional design. Current members of the Society of Gynecologic Oncology were sent an anonymous email survey including 76 items measuring burnout, psychosocial distress, career satisfaction, and quality of life.

RESULTS: A total of 1086 members were invited, 436 (40.1%) responded, and 369 (84.6%) of those completed the survey. Of physicians, 30% scored high for emotional exhaustion, 10% high for depersonalization, and 11% low for personal accomplishment. Overall, 32% of physicians scored above clinical cutoffs indicating burnout. In all, 33% screened positive for depression, 13% endorsed a history of suicidal ideation, 15% screened positive for alcohol abuse, and 34% reported impaired quality of life. Nonetheless, 70% reported high

levels of personal accomplishment, and results suggested most were satisfied with their careers, as 89% would enter medicine again and 61% would encourage their child to enter medicine. Respondents with high burnout scores were less likely to report they would become a physician again ($P = .002$) or encourage a child to enter medicine ($P < .001$), and more likely to screen positive for depression ($P < .001$), alcohol abuse ($P = .006$), history of suicidal ideation ($P < .001$), and impaired quality of life ($P < .001$).

CONCLUSION: Burnout is a significant problem associated with psychosocial distress and lower levels of career satisfaction in gynecologic oncologists. Burnout in obstetrics-gynecology and gynecologic oncology is of particular concern as young age and female gender are often identified as risk factors for this significant problem. Interventions targeted at improving quality of life, treatment of depression, or alcohol abuse may have an impact on burnout. However, significant barriers may exist as 44.5% of respondents in this study reported that they would be reluctant to seek medical care for depression, substance use, or other mental health issues due to concerns about their medical license.

Key words: burnout, career satisfaction, gynecologic oncology

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Burnout is a prolonged response to chronic emotional and interpersonal stressors on the job, and is not equivalent to stress or depression. It is defined by the triad of emotional exhaustion; development of a negative, cynical attitude towards patients

(depersonalization); and a sense that one's work is not meaningful or important (personal accomplishment).¹ Workers in the caring and service professions are at high risk of burnout.² Over the past few decades burnout has been recognized as endemic among all

medical specialties and directly associated with poor physician well-being.²⁻⁴ Burnout in physicians negatively impacts patient care and health care systems as it is associated with poor patient satisfaction, medical errors, leaving ones current practice, and/or early retirement from the practice of medicine.⁵⁻⁸

Burnout is endemic among physicians although there are substantial differences observed by specialty.⁹⁻¹⁷ The burnout rate in a large study of US physicians was recently noted to be 46%, ranging from 30% to >60%, with the highest rates seen in those at the front line of care access.⁴ The American College of Surgeons conducted the largest and most comprehensive study on this topic, revealing that 40% of its

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TABLE 1
Personal characteristics of study participants

Personal characteristics	n (%)
No. surveys sent	1086
No. surveys with response	436 (40.1)
No. surveys completed	369 (34.0)
Age (y), median (IQR)	48 (40–57)
Gender	n = 418
Male	261 (62.4)
Female	157 (37.6)
Relationship status	n = 421
Single	50 (11.9)
Married/partnered	371 (88.1)
Ever divorced	79 (18.8)
Partner or spouse works outside home?	n = 369
Yes	218 (59.1)
No	151 (40.9)
Partner or spouse's current profession?	n = 218
Physician	105 (48.2)
Health care provider, nonphysician	51 (23.4)
Non health care	62 (28.4)
No. of children	n = 419
0	70 (16.7)
1	40 (9.6)
2	164 (39.1)
3	96 (22.9)
≥4	49 (11.7)
Form of child care	n = 187
Parent	80 (42.8)
Nanny	72 (38.5)
Daycare	23 (12.3)
Other family member	12 (6.4)

IQR, interquartile range.

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members experience burnout. Independent risk factors for burnout included younger age, increased work hours per week, call, type of practice setting, type of compensation, and type of surgical subspecialty. Burnout in surgeons was associated with a higher incidence of medical errors, depression, suicidal ideation, alcohol abuse, low quality of life, and low career

satisfaction.^{5,18,19} Very few data exist on this topic within the field of obstetrics and gynecology.

Burnout among gynecologic oncologists has not been well described as only a few small studies exist.^{14,20,21} It is difficult to extrapolate data on this topic from other specialties as the practice of a gynecologic oncologist encompasses both the medical and surgical aspects of

oncology and is characterized by continuity of care throughout the spectrum of the patient's diagnosis, therapy, and surveillance. Burnout has significant implications for physicians, but also significantly impacts their patients, families, associates, and health care systems. Therefore, we set out to better understand burnout in gynecologic oncologists.

Our objective was to determine the rate of burnout among full and candidate members of the Society of Gynecologic Oncology (SGO) and to evaluate variables that might be associated with burnout. Specifically, we examined sociodemographic variables (eg, age, relationship status, number of children), professional characteristics (eg, practice setting, compensation, hours spent in operating room), as well as indices of psychological well-being (eg, overall mental health, depressive symptoms, substance use).

MATERIALS AND METHODS

Participants

All physicians who were senior, full, or candidate members of the SGO and had a working email address listed in the SGO member directory were eligible to participate in the study. Participation was elective and all responses were anonymous. Institutional review board approval was awarded at the Ohio State University Wexner Medical Center prior to beginning the study.

Data collection

An anonymous electronic survey was sent to SGO members via email between February and March 2013. A cover letter stated that the purpose of the study was to evaluate career satisfaction and practice characteristics among gynecologic oncologists. The study participants were asked 76 questions that assessed sociodemographic variables, professional characteristics, physical and psychological well-being, and level of burnout. Validated survey tools were used where appropriate. Two additional reminder emails were sent to SGO members to complete the survey.

Sociodemographic variables

Participants were asked to report age, gender, marital/partnership status, spouse/partner employment status and type, age and number of children, and type of child care.

Professional characteristics

Questions regarding years of practice, hours worked per week, hours spent in the operating room each week, call, practice setting, compensation model, time spent in nonpatient care activities, administration of chemotherapy, number of manuscripts published in the last year, and amount of vacation time available and used were asked. Additional questions were developed to evaluate personal and professional characteristics. Two questions were used to evaluate career satisfaction. One asked gynecologic oncologists if given the opportunity to revisit their career choice, they would choose to become a physician again. The second question asked if they would become a gynecologic oncologist again. Furthermore, we asked if our study participants would encourage their children to pursue a career in medicine. Physicians were also asked about medical errors that occurred in the last 3 months and contributing factors to the error.

Physical and psychological well-being

The Medical Outcomes Study Short Form (SF-12) was used to evaluate mental and physical functioning and overall health-related quality of life. The US population average scores were used for comparison.^{22,23} Depression symptoms were evaluated using the 2-item PRIME MD/PHQ2, a brief screen for depression that has been shown to perform as well psychometrically as more comprehensive screening tools.^{24,25} Items assessing suicidal ideation, feelings of anxiety or stress, the use of antidepressant medication, formal psychiatric evaluation in the past year, and reluctance to seek psychiatric help were included to gauge access and engagement in psychiatric care. Alcohol abuse was evaluated using the CAGE questionnaire.²⁶

TABLE 2

Professional characteristics of study participants

Professional characteristics	n (%)
SGO membership	n = 414
Candidate	63 (15.4)
Full member	351 (84.6)
Years in practice	n = 414
<10	141 (34)
10–19	112 (27.1)
20–30	98 (23.7)
>30	63 (15.2)
Hours worked per week	n = 403
<50	70 (16.9)
50–59	100 (24.2)
60–69	131 (31.7)
70–79	64 (15.5)
≥80	48 (11.6)
Hours per week in operating room, median (IQR)	15 (10–20)
No. of nights on call per week, median (IQR)	3 (1–5)
Percentage of time spent on nonpatient care activities, median (IQR)	20 (10–100)
Give chemotherapy	n = 414
Yes	320 (77.3)
No	94 (22.7)
Practice setting	n = 375
Private practice	74 (19.7)
Private practice with teaching	79 (21.1)
Academic	222 (59.2)
Academic rank	n = 321
Assistant professor	117 (36.4)
Associate professor	84 (26.2)
Full professor	120 (37.4)
Primary method of compensation	n = 403
Salary	129 (32)
Salary with bonus	192 (47.6)
Incentive based on productivity	48 (11.9)
Other	34 (8.5)
Manuscripts in last year, median (IQR)	
Primary author	0 (0–2)
Coauthor	2 (0–4)

IQR, interquartile range; SGO, Society of Gynecologic Oncology.

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TABLE 3
Physical and psychological well-being of gynecologic oncologists

Physical and psychological characteristics	n (%)
Quality of life (SF-12)	n = 397
Mean physical score (SD)	52.4 (7.22)
Percent 1 SD below population norm	14
Mean mental score (SD)	51.1 (8.85)
Percent 1 SD below population norm	23
Overall health	n = 409
Excellent	189 (46.2)
Very good	151 (36.9)
Good	54 (13.2)
Fair	14 (3.4)
Poor	0
Cardiovascular exercise per week	n = 403
0–2	208 (52)
>3	195 (48)
Mental health	n = 398
Positive depression screen (PRIME MD/PHQ2)	133 (33)
Suicidal ideation (ever)	49 (13)
CAGE screen positive	60 (15)
In last 12 mo	
Felt stressed, overwhelmed	168 (42)
Sought psychiatric help	34 (9)
Taken psychiatric medications	42 (11)
Experienced panic attacks	54 (14)
Reluctant to seek professional mental health assistance	178 (45)

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The Maslach Burnout Inventory (MBI) was used to measure burnout. It is a 22-item survey designed to measure 3 aspects of burnout: emotional exhaustion, depersonalization, and lack of personal accomplishment.^{1,27,28} As in other studies of burnout in health care professionals a high score in either emotional exhaustion or depersonalization was considered positive for burnout syndrome.

Statistical analysis

Descriptive statistics were used to characterize sample demographics, level of burnout, career satisfaction, mental health characteristics, and quality of life. Continuous variables are presented as

medians and interquartile range, while categorical variables are presented as frequencies and percentages. Quality-of-life summaries are presented as means and SD. Fisher exact method was used to test associations between categorical variables and burnout while Wilcoxon rank sum method was used to test continuous variables across burnout. The Holm procedure adjusted *P* values to conserve the overall type I error at .05 due to the multiple testing in the study. All analyses were done using software (Stata 12.1; StataCorp, College Station, TX).

RESULTS

In all, 1086 SGO members were invited and 436 (40.1%) responded; of these,

369 (34%) completed the burnout portion of the survey. Sociodemographic and professional characteristics are summarized in Tables 1 and 2. Median age was 48 years old, 62.4% were male, 88% were married/partnered, and over half had a partner who worked outside the home. Most had at least 1 child. Over 60% had been practicing >10 years, >80% worked >50 hours per week, the median number of operating room hours was 15 per week, and nights call was 3 per week. Over 70% managed patients' chemotherapy, 79% were compensated by salary or salary with bonus, and about 60% practice in an academic setting. These demographic data are similar to that obtained in the 2010 State of the Subspecialty survey published by the SGO.²⁹

Responses to questions regarding physical and psychological well-being are summarized in Table 3. Median scores for physical and mental quality of life (SF-12) are reported with 33% positive for depression (PRIME MD/PHQ2), 13% reported a history of suicidal ideation, 11% took medication for depression or anxiety in the last 12 months, 14% experienced panic attacks, and 15% screened positive for alcohol abuse. When asked about feeling overwhelmed or that life was unmanageable, >40% responded affirmatively. In spite of these results only 9% sought psychiatric care in the last 12 months, and 45% reported they would be reluctant to seek formal psychiatric care for depression, substance use (alcohol, drugs, other), or other mental health issues due to concerns regarding their medical license.

Table 4 describes burnout and career satisfaction. Of gynecologic oncologists, 32% scored above clinical cutoffs for burnout with high emotional exhaustion and/or depersonalization scores. Nonetheless, 70% reported high levels of personal accomplishment, and results suggest that most were satisfied with their careers, as 89% would enter medicine and practice gynecologic oncology again, and 61% would encourage their child to pursue a career in medicine.

Table 5 lists factors associated with burnout and the burnout odds ratios (ORs) based on univariate logistic

TABLE 4
Burnout and career satisfaction
among gynecologic oncologists

Maslach Burnout Inventory Scores	n = 369
Emotional exhaustion	
Low	46%
Moderate	25%
High (burnout)	30%
Depersonalization	
Low	66%
Moderate	24%
High (burnout)	10%
Personal accomplishment	
High	70%
Moderate	19%
Low (poor score)	11%
Overall burnout positive	32%
Career satisfaction	
Physician again	361/406 (89%)
Gynecologic oncologist again	360/405 (89%)
Encourage child to enter medicine	244/401 (61%)

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regression analysis of personal and professional characteristics. Female gender, low mental quality-of-life score, positive depression screen, feeling stressed and/or overwhelmed, history of suicidal ideation, reluctance to seek mental health care, and high CAGE score were associated with increased odds of burnout while older age and career satisfaction were protective. Burnout was not associated with number of children, marital status, practice type, spouse working outside the home, amount of vacation taken per year, recent medical error, or number of hours worked. Multivariable logistic regression analysis indicates that physicians with low mental quality of life (OR, 3.23; 95% confidence interval [CI], 1.82–5.72; $P < .001$), depression screen positive (OR, 2.81; 95% CI, 1.56–5.07; $P .001$), feeling stressed and overwhelmed (OR, 2.81; 95% CI, 1.58–4.98; $P < .001$), and

reluctance to seek care (OR, 2.72; 95% CI, 1.56–4.74; $P < .001$) were associated with a higher odds of burnout, while physicians who would encourage a child to enter medicine were associated with lower odds of burnout (OR, 0.42; 95% CI, 0.24–0.73; $P .002$). Personal accomplishment scores were not significantly correlated with career satisfaction ($P < .225$), depression ($P > .99$), alcohol abuse ($P > .99$), or suicidal ideation ($P > .99$).

Of gynecologic oncologists, 45% were reluctant to seek formal medical care for depression, substance abuse (alcohol, drugs, other), or other mental health issues secondary to concerns regarding medical licensure. Multivariable analysis (Table 6) revealed that burnout was the independent variable most strongly associated with reluctance to seek formal medical care (OR, 2.95; 95% CI, 1.83–4.78; $P < .001$). Depression screen—positive physicians (OR, 2.52; 95% CI, 1.25–5.10; $P .008$) and those with a high CAGE score (OR, 2.18; 95% CI, 1.15–4.12; $P .02$) were also associated with reluctance to seek care.

COMMENT

Burnout is a significant problem among professionals in a variety of careers, including physicians. As reported in other groups of physicians we found a significant rate of burnout among gynecologic oncologists, with 32% of respondents being burned out. This rate is slightly lower than burnout rates among all physician specialties (37.9%), but higher than then general population (27.8%).⁴ Additionally, 13% of gynecologic oncologists in this study endorsed a history of suicidal ideation, one third screened positive for depression, and >40% endorsed feeling stressed and overwhelmed. Disturbingly, almost 50% reported they would be reluctant to seek mental health care if needed due to concerns regarding their medical licensure. Despite these findings, career satisfaction was high with 89% reporting they would become a gynecologic oncologist again, and 61% reporting they would encourage their children to become physicians. The only factors independently associated with burnout

were low mental quality of life scores, positive depression screen, feeling stressed and overwhelmed, and reluctance to seek mental health care.

The current study assessing burnout in gynecologic oncologists is the largest using validated survey tools, including the MBI. Two small studies on Canadian and Australian gynecologic oncologists revealed similar rates of burnout primarily due to high emotional exhaustion scores.^{14,20} A larger (n = 273) multinational study of gynecologic oncologists explored work-related strain, a surrogate of burnout, which correlates with the MBI, and found that the median score among respondents indicated a moderate level of burnout.²¹ In this sample, higher work-related strain scores were associated with younger age, fewer years in practice, anxiety regarding end-of-life care, and low scores on perceived internal control. This study did not explore other personal and professional characteristics that might predict higher work-related strain.²¹ Although these studies differ from ours in regards to sample size, geography, and use of validated survey tools, it is clear that burnout is associated with many negative professional and psychosocial factors in gynecologic oncologists.

Studies that include a representative sample of practicing obstetrician/gynecologists and use the MBI to assess burnout and associated factors among practicing obstetrician/gynecologists do not exist. Only 1% (n = 107) of the surgeons in the American College of Surgeons study were self-identified as an obstetrician-gynecologist.³⁰ A 2012 multispecialty study reported that the rate of burnout of obstetrician-gynecologists (n = 312) approximated the pooled mean of 45.8%.⁴ A recent study of obstetrician-gynecologists and other nonobstetrician-gynecologists revealed that measures of burnout are strongly correlated with career satisfaction.³¹ The strongest predictor of emotional resilience and personal accomplishment in obstetrician-gynecologists was control over work schedule and hours. Burnout rates were not specifically reported, however

TABLE 5

Burnout odds ratios based on univariable logistic regression of personal and professional characteristics (referent group listed first)

Factors	Burnout (%)	Burnout odds ratio (95% CI)	P value
Female	41	1.86 (1.18–2.91)	.007
Male	27		
Age >50 y	25	0.48 (0.29–0.81)	.006
Age ≤50 y	41		
Become physician again			
Yes	29	0.30 (0.16–0.59)	.002
No	57		
Encourage child to become physician			
Yes	21	0.30 (0.19–0.49)	< .001
No	48		
Work ≥60 h/wk			
Yes	34	1.20 (0.77–1.88)	.420
No	30		
Low SF-mental score			
Yes	69	8.58 (4.96–14.83)	< .001
No	21		
Depression screen			
Positive	61	7.34 (4.50–11.98)	< .001
Negative	18		
Stressed and overwhelmed			
Yes	54	5.60 (3.47–9.03)	< .001
No	17		
Suicidal ideation			
Yes	65	4.92 (2.59–9.34)	< .001
No	27		
Reluctant to seek care			
Yes	48	3.65 (2.30–5.80)	< .001
No	20		
High CAGE score (alcohol)			
Yes	55	2.93 (1.63–5.28)	.006
No	28		

CI, confidence interval.

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obstetrician-gynecologists were noted to have the highest levels of personal accomplishment.³¹ Interestingly, O'Connell et al³² surveyed a large group of obstetrician-gynecologists to measure the effect of patient flow in the office on

career satisfaction and symptoms of burnout. In this study, 44% declared they were burned out and symptoms of burnout correlated with type of practice setting, time allotted per patient, and likelihood of a liability suit.³² In 2002,

Gabbe et al³³ studied burnout among chairs of obstetrics and gynecology departments (n = 119) in the United States. Among this highly selected group >50% were classified as burned out including 35% with high depersonalization scores. Young age, those new to the position of department chair, those who worked >70 hours per week, and those with less spouse/partner support were more likely to experience burnout.³³

Burnout is endemic among physicians and there are many similarities and some differences among various specialties. Gynecologic oncology differs from many surgical subspecialties considering that it encompasses both the needed medical and surgical oncology management throughout the spectrum of care the patient requires. Shanafelt et al¹⁹ published the largest study on burnout in the surgical specialties to date, which included 7905 members (35% response rate) of the American College of Surgeons. In this large comprehensive cross-sectional study, 40% of surgeons were burned out; 32% had high scores in emotional exhaustion and 26% had high scores in depersonalization. Personal accomplishment remained high with 66% of surgeons achieving high scores in this domain. These results correlated with crude pooled estimates (emotional exhaustion 30%, depersonalization 29%) from other studies referenced in that article. Compared to our study on gynecologic oncologists, career satisfaction among surgeons was lower with only 74% reporting they would become a surgeon again, and 50% recommending this career to their children. The rate of high emotional exhaustion in gynecologic oncologists is similar to that observed in the American College of Surgeon study. However, depersonalization in SGO members, which is the marker for detachment from the job and treating the patient as an object, is much lower as compared most other surgical and medical specialties.^{9,11,17,19,34-36}

Engagement, meaning, and a sense of control are variables that affect the level of career satisfaction and personal accomplishment in physicians.^{37,38} Perhaps the findings in our study, which include an extremely high

level of career satisfaction, low depersonalization, and high personal accomplishment, are influenced by the unique comprehensive continuity of care model of gynecologic oncology and the high-quality long-term relationships that we have with our patients. This hypothesis may also apply to the obstetrician-gynecologist as reported by Keeton et al,³¹ who have a similar continuity of care model, as they reported significantly more personal accomplishment and work–life balance than general surgeons and significantly more career satisfaction than general internists.

Interestingly, we did not find that any demographic or practice variables were independently associated with burnout, although both age (<50 years) and gender (female) were associated with increased risk of burnout on univariate analysis. Other studies have found that age, gender, workload, practice setting, age of children, and compensation impact burnout.^{11,19,21,35} This difference could be due to smaller sample size in our study being underpowered to detect such associations, but more likely is secondary to the inclusion of these demographic factors in a statistic model that also included both physical and psychological well-being and career satisfaction. The fact that female gender and younger age are significant risk factors for burnout in most studies is a significant concern in the fields of both obstetrics-gynecology and gynecologic oncology considering the great majority entering this workforce are now women.³¹

Burnout in physicians is associated with both poor personal and professional outcomes. Burned-out American College of Surgeons physicians were less likely to be up to date with age- and sex-appropriate health care screening guidelines, to report personal wellness promotion strategies, and to adhere to Centers for Disease Control and Prevention recommendations for aerobic exercise.³⁹ Although burnout was not associated with self-reported medical errors in our study, others have noted that burnout is related to suboptimal patient outcomes, medical errors, and liability claims.^{5,32,40} Among surgeons,

TABLE 6
Factors that may lead physicians to be reluctant to seek formal medical care

Factor	Reluctant to seek care	P value
All	166/369 (45%)	
Burnout		< .001
Yes	79/119 (66%)	
No	87/250 (35%)	
Depression screen, positive		.008
Yes	77/124 (62%)	
No	89/245 (36%)	
Suicidal ideation		.65
Yes	27/48 (56%)	
No	139/321 (43%)	
CAGE		.02
Yes	36/55 (66%)	
No	130/314 (41%)	

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concern that they had made a major medical error in the last 3 months was associated with burnout, lower mental quality of life, and symptoms of depression.⁵ Internal medicine residents with low quality of life, low scores on in service exams, and self-reported suboptimal patient care were more likely to be burnout.^{6,41} Burnout is also prevalent among neonatal intensive care unit caregivers, and associated with lower perceptions of appropriate patient safety culture.⁴² Patient satisfaction is also negatively impacted by physician burnout as in 1 study where patients of physicians with high exhaustion and high depersonalization had significantly lower satisfaction scores, compared with patients of physicians with low exhaustion and low depersonalization, respectively.⁴³

Burnout in gynecologic oncologists is associated with significant psychosocial morbidity and substance abuse. It may be surprising to some that 33% of respondents in this study screened positive for depression, and 13% of endorsed a history of suicidal ideation, however similar rates were noted among surgeons in the American College of Surgeons study.¹⁹ Suicidal ideation was associated

with burnout among US surgeons and gynecologic oncologists in our study.¹⁸ A large study of US medical students showed that burnout was highly correlated with suicidal ideation even when controlling for depression. Interestingly, when burnout abated subsequent rates of suicidal ideation decreased.⁴⁴ Suicide in physicians is likely to be under-reported and the rate is higher as compared to the general population. In fact, the aggregate suicide rate ratio in female physicians is 2.27 and 1.41 for male physicians as compared to the general population.⁴⁵

Considering the prevalence of burnout, depression, and suicidal ideation in gynecologic oncologists, it is concerning that almost half of our study participants reported that they would be reluctant to seek formal psychiatric care due to concerns regarding their medical license. High rates of reluctance to seek medical care for psychiatric conditions among surgeons have been reported previously. Even physicians with suicidal ideation are less likely than the general population with suicidal ideation to establish psychiatric medical care (26% vs 44%). Instead, physicians are more likely to self-prescribe or ask a colleague

to provide antidepressants.¹⁸ This is concerning as physicians are more likely to be insured, have good access to medical care, and are aware of the repercussions of untreated mental illness. An additional barrier to care that physicians may face is a culture that places low priority in physician mental health. Avoidance of appropriate medical care could adversely affect patient care. Some suggest that physicians who seek professional care for their own depression and suicidal ideation may provide better mental health care to their patients.⁴⁶

Our study on burnout in gynecologic oncologists has limitations. Although very good for this type of survey study and similar to other large studies,^{19,35} suggesting that SGO members are invested in learning more about this topic, the response rate of 40% may induce significant response bias. We do not know if physicians who are burned out are more or less likely to respond to such a survey, which could skew the data either way. However, several studies have not shown a difference in data obtained between responding and nonresponding physicians in cross-sectional studies.⁴⁷ Also, several studies have verified that scores on Internet-administered questionnaires are strongly correlated with scores obtained using paper-and-pencil versions and psychometric properties are comparable.^{48,49} Additionally, this is a cross-sectional study and presents data at only 1 point in time. Specific physicians' responses may be impacted by transient factors and not a true representation of their level of chronic burnout. There are likely factors that impact burnout, career satisfaction, and quality of life that we did not measure. Strengths of this study include providing the first large report of burnout among gynecologic oncologists using validated instruments to measure burnout, quality of life, depression, and alcohol abuse that allow comparisons to other studies.

Career satisfaction in medicine has been decreasing over the past 3 decades and therefore the satisfaction rate reported by gynecologic oncologists in this study is quite high compared to other physician groups including surgeons and medical oncologists.^{4,36,50-52} Burnout in

gynecologic oncologists is and will be a significant problem affecting personal and patient well-being. This problem requires further investigation and intervention in the fields of obstetrics-gynecology and gynecologic oncology considering the current demographic features of these specialties.⁵³⁻⁵⁵ While the causes of burnout are multifactorial, interventions aimed at improving quality of life and treatment of depression and/or substance abuse may have an impact on the incidence of physician burnout.⁵³ However, barriers to such interventions exist as a very large portion of SGO members are reluctant to seek formal medical care for mental health issues and/or substance abuse. Increased physician awareness of these problems is necessary and educational programs are needed regarding strategies to prevent burnout and the associated psychosocial morbidity. ■

REFERENCES

- Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual, 3rd ed. Palo Alto, CA: Consulting Psychologists Press; 1996.
- Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol* 2001;52:397-422.
- Surawicz CM. J. Edward Berk distinguished lecture: avoiding burnout: finding balance between work and everything else. *Am J Gastroenterol* 2014;109:511-4.
- Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* 2012;172:1377-85.
- Shanafelt TD, Balch CM, Bechamps G, et al. Burnout and medical errors among American surgeons. *Ann Surg* 2010;251:995-1000.
- West CP, Huschka MM, Novotny PJ, et al. Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *JAMA* 2006;296:1071-8.
- Firth-Cozens J, Greenhalgh J. Doctors' perceptions of the links between stress and lowered clinical care. *Soc Sci Med* 1997;44:1017-22.
- Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet* 2009;374:1714-21.
- Guntupalli KK, Fromm RE Jr. Burnout in the internist-intensivist. *Intensive Care Med* 1996;22:625-30.
- Campbell DA Jr, Sonnad SS, Eckhauser FE, Campbell KK, Greenfield LJ. Burnout among American surgeons. *Surgery* 2001;130:696-705.
- Kuerer HM, Eberlein TJ, Pollock RE, et al. Career satisfaction, practice patterns and burnout among surgical oncologists: report on the quality of life of members of the Society of Surgical Oncology. *Ann Surg Oncol* 2007;14:3043-53.
- Arigoni F, Bovier PA, Mermillod B, Waltz P, Sappino AP. Prevalence of burnout among Swiss cancer clinicians, pediatricians and general practitioners: who are most at risk? *Support Care Cancer* 2009;17:75-81.
- Asai M, Morita T, Akechi T, et al. Burnout and psychiatric morbidity among physicians engaged in end-of-life care for cancer patients: a cross-sectional nationwide survey in Japan. *Psychooncology* 2007;16:421-8.
- Elit L, Trim K, Mand-Bains IH, Sussman J, Grunfeld E. Job satisfaction, stress, and burnout among Canadian gynecologic oncologists. *Gynecol Oncol* 2004;94:134-9.
- Gabbe SG, Webb LE, Moore DE, Harrell FE Jr, Spickard WA Jr, Powell R Jr. Burnout in medical school deans: an uncommon problem. *Acad Med* 2008;83:476-82.
- Kluger MT, Townend K, Laidlaw T. Job satisfaction, stress and burnout in Australian specialist anesthetists. *Anaesthesia* 2003;58:339-45.
- Soler JK, Yaman H, Esteva M, et al. Burnout in European family doctors: the EGPRN study. *Fam Pract* 2008;25:245-65.
- Shanafelt TD, Balch CM, Dyrbye L, et al. Special report: suicidal ideation among American surgeons. *Arch Surg* 2011;146:54-62.
- Shanafelt TD, Balch CM, Bechamps GJ, et al. Burnout and career satisfaction among American surgeons. *Ann Surg* 2009;250:463-71.
- Stafford L, Judd F. Mental health and occupational well-being of Australian gynecologic oncologists. *Gynecol Oncol* 2010;116:526-32.
- Ramondetta LM, Urbauer D, Brown AJ, et al. Work-related stress among gynecologic oncologists. *Gynecol Oncol* 2011;123:365-9.
- Ware J Jr, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Med Care* 1996;34:220-33.
- Ware JE, Kosinski M, Turner-Bowker DM, Gandek B; QualityMetric Incorporated, New England Medical Center Hospital. Health Assessment Lab. How to score version 2 of the SF-12 health survey (with a supplement documenting version 1). Lincoln (RI), Boston (MA): QualityMetric Inc; Health Assessment Lab; 2002.
- Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression: two questions are as good as many. *J Gen Intern Med* 1997;12:439-45.
- Spitzer RL, Williams JB, Kroenke K, et al. Utility of a new procedure for diagnosing mental disorders in primary care: the PRIME-MD 1000 study. *JAMA* 1994;272:1749-56.
- O'Brien CP. The CAGE questionnaire for detection of alcoholism: a remarkably useful but simple tool. *JAMA* 2008;300:2054-6.
- Rafferty JP, Lemkau JP, Purdy RR, Rudisill JR. Validity of the Maslach Burnout

Inventory for family practice physicians. *J Clin Psychol* 1986;42:488-92.

28. Lee RT, Ashforth BE. A meta-analytic examination of the correlates of the three dimensions of job burnout. *J Appl Psychol* 1996;81:123-33.

29. Society of Gynecologic Oncologists. *Gynecologic Oncology 2010: State of the Subspecialty*; 2010. Available at: www.sgo.org. Accessed October 27, 2015.

30. Balch CM, Shanafelt TD, Sloan JA, Satele DV, Freischlag JA. Distress and career satisfaction among 14 surgical specialties, comparing academic and private practice settings. *Ann Surg* 2011;254:558-68.

31. Keeton K, Fenner DE, Johnson TR, Hayward RA. Predictors of physician career satisfaction, work-life balance, and burnout. *Obstet Gynecol* 2007;109:949-55.

32. O'Connell VY, S.; Pellegrini V. Physician burnout: the effect of time allotted for a patient visit on physician burnout among OB/GYN physicians. *J Med Pract Manage* 2009;24:300-13.

33. Gabbe SG, Melville J, Mandel L, Walker E. Burnout in chairs of obstetrics and gynecology: diagnosis, treatment, and prevention. *Am J Obstet Gynecol* 2002;186:601-12.

34. Embriaco N, Azoulay E, Barrau K, et al. High level of burnout in intensivists: prevalence and associated factors. *Am J Respir Crit Care Med* 2007;175:686-92.

35. Balch CM, Shanafelt TD, Sloan J, Satele DV, Kuerer HM. Burnout and career satisfaction among surgical oncologists compared with other surgical specialties. *Ann Surg Oncol* 2011;18:16-25.

36. Shanafelt TD, Raymond M, Kosty M, et al. Satisfaction with work-life balance

and the career and retirement plans of US oncologists. *J Clin Oncol* 2014;32:1127-35.

37. Shanafelt TD. Enhancing meaning in work: a prescription for preventing physician burnout and promoting patient-centered care. *JAMA* 2009;302:1338-40.

38. Shanafelt TD, West CP, Sloan JA, et al. Career fit and burnout among academic faculty. *Arch Intern Med* 2009;169:990-5.

39. Shanafelt TD, Oreskovich MR, Dyrbye LN, et al. Avoiding burnout: the personal health habits and wellness practices of US surgeons. *Ann Surg* 2012;255:625-33.

40. Balch CM, Oreskovich MR, Dyrbye LN, et al. Personal consequences of malpractice lawsuits on American surgeons. *J Am Coll Surg* 2011;213:657-67.

41. Shanafelt TD, Bradley KA, Wipf JE, Back AL. Burnout and self-reported patient care in an internal medicine residency program. *Ann Intern Med* 2002;136:358-67.

42. Profit J, Sharek PJ, Amspoker AB, et al. Burnout in the NICU setting and its relation to safety culture. *BMJ Qual Saf* 2014;23:806-13.

43. Anagnostopoulos F, Liolios E, Persefonis G, Slater J, Kafetsios K, Niakas D. Physician burnout and patient satisfaction with consultation in primary health care settings: evidence of relationships from a one-with-many design. *J Clin Psychol Med Settings* 2012;19:401-10.

44. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. *Acad Med* 2006;81:354-73.

45. Schernhammer ES, Colditz GA. Suicide rates among physicians: a quantitative and gender assessment (meta-analysis). *Am J Psychiatry* 2004;161:2295-302.

46. Center C, Davis M, Detre T, et al. Confronting depression and suicide in physicians: a consensus statement. *JAMA* 2003;289:3161-6.

47. Kellerman SE, Herold J. Physician response to surveys: a review of the literature. *Am J Prev Med* 2001;20:61-7.

48. Andersson G, Kaldo-Sandstrom V, Strom L, Stromgren T. Internet administration of the Hospital Anxiety and Depression Scale in a sample of tinnitus patients. *J Psychosom Res* 2003;55:259-62.

49. Richter JG, Becker A, Koch T, et al. Self-assessments of patients via Tablet PC in routine patient care: comparison with standardized paper questionnaires. *Ann Rheum Dis* 2008;67:1739-41.

50. Hadley J, Cantor JC, Willke RJ, Feder J, Cohen AB. Young physicians most and least likely to have second thoughts about a career in medicine. *Acad Med* 1992;67:180-90.

51. Skolnik NS, Smith DR, Diamond J. Professional satisfaction and dissatisfaction of family physicians. *J Fam Pract* 1993;37:257-63.

52. Chan WC, Sunshine JH, Owen JB, Shaffer KA. US radiologists' satisfaction in their profession. *Radiology* 1995;194:649-56.

53. Spickard A Jr, Gabbe SG, Christensen JF. Mid-career burnout in generalist and specialist physicians. *JAMA* 2002;288:1447-50.

54. Pellegrini VA. Physician burnout: a time for healing. *Obstet Gynecol Surv* 2007;62:285-6.

55. Barbieri RL. Enhancing our practice environment in order to support a long, fulfilling, and productive career. *Obstet Gynecol* 2008;112:7-9.