Surgeon Burnout: A Systematic Review

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Burnout is a syndrome characterized by emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment caused by work-related stress.[1,2] Physicians are at increased risk for burnout as a result of long work hours, delayed gratification, challenges with work and home balance, and challenges associated with patient care, especially in the changing health care environment.[1,3-5]

In a recent study, more than half of physicians met criteria for burnout. In addition, the prevalence of burnout increased by 10% in US physicians between 2011 and 2014.[6] The prevalence of burnout was lower in a probability-based sample of the general US working population, with no increase over the same time period. This increase was observed across specialties, with many specialties reporting well over 50% of physicians being burned out.[6] This disturbing trend is likely multifactorial, with increasing demands in clinical productivity, difficulty in funding research endeavors, more patients to care for with fewer resources, changes in reimbursement, rising student debt, and difficulty balancing personal and work life.[7-10]

Burnout is especially prevalent in surgical specialties. In the 2015 Medscape Physician Lifestyle Report, burnout rates ranged from 37% to 53% across specialties, with general surgeons nearly topping the list at 50%.[11] Burnout has severe adverse consequences, including substance abuse, disruptive behavior, absenteeism, attrition, strained personal relationships, divorce, depression, suicidal ideation, and suicide.[12-14] Over the past decade, awareness has been raised, and the ability to accurately assess and identify physicians suffering from burnout has improved. The aim of this systematic review was to provide a concise review and identify studies reporting on identification, prevention, or intervention for surgeons suffering from burnout.

METHODS

Articles were identified by searching the MEDLINE Ovid and PubMed databases from 2000 to the present, and from reference lists of reviewed articles. A combination of the following medical subject headings (MeSH) were used to conduct the literature search: surgeons, internship, residency, surgical subspecialties, physicians, professional burnout, personnel turnover, student dropouts, attrition, job satisfaction, work schedule tolerance, and psychological stress. Two of the authors reviewed abstracts independently, and studies including identification, prevention, or intervention for burnout among surgeons were selected for review. The study selection diagram is reported in Figure 1.

Inclusion and exclusion criteria

Articles written after 2000 were excluded if they were non-English, did not include surgeons or surgical residents (surgical subspecialties were included), did not address identification of burnout, risk factors, consequences of burnout, prevention, or intervention for surgeons dealing with burnout, were case studies, case reports, comments, reviews, or editorials, or were done outside of the United States given different medical practices and training. Cross-referencing of article citations in identified articles was done to ensure that all appropriate articles were included. Randomized controlled trials, nonrandomized controlled trials, longitudinal cohort studies with intervention, cross-sectional studies, and observational studies were included.

Measures of burnout

Studies identifying burnout in surgeons were most commonly done through surveys and/or longitudinal studies, and focused on the 3 main components of burnout: emotional exhaustion, depersonalization, and personal accomplishment. The Maslach Burnout Inventory (MBI) was the most commonly used tool to measure burnout. Other tools used to measure wellbeing, depression, grit, and quality of life in the identified studies included the Physician Well-Being Index (PWBI), the Dupuy Psychological General Well-Being Scale (PGWB), the Linear Analog Scale Assessment of

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Quality of Life (LASA QOL), the Primary Care Evaluation of Mental Disorders (PRIME-MD), the Medical Outcomes Study Short Form (SF-12) and the Grit and Short Grit Scale. The assessment tools are summarized in Table 1.

RESULTS

A total of 140 articles were identified from the database search (Fig. 1); 110 articles were excluded for the following reasons: nonsurgical subspecialty/non-English (n = 94), study design (n = 2), editorial or case report/case series (n = 6), and review article (n = 8). Therefore, 30 studies were identified from the database search and were included in the review. Nine additional studies were identified via cross-referencing article citations and were included in the review. Overall, 39 articles related to assessment of burnout, assessment of wellbeing, risk factors associated with burnout, consequences of burnout, interventions for burnout, or prevention of burnout and were included in the review (Table 2).

Prevalence of burnout among surgeons

Shanafelt and colleagues[5] did one of the earliest and largest studies of burnout in surgeons in 2009 (Table 2). They surveyed 24,922 members of the American College of Surgeons, with 7,905 respondents (32%). More than half of the responders were age 50 or older, and 13% were women. More than 90% were either married or had a partner, 21% of responders had gone through a divorce, and 88% had children. More than half of the responders were in private practice, 29% in academic practice, and approximately 4% were retired.

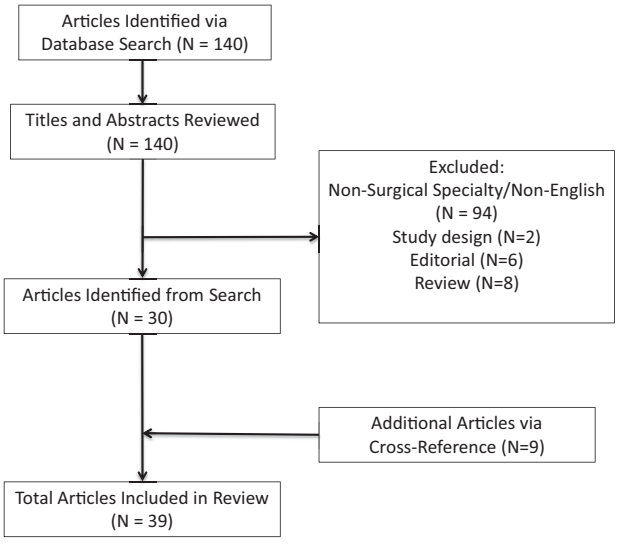

Figure 1. Selection diagram of studies included in the systematic review investigating burnout among surgeons and surgical subspecialties.

Based on the Maslach Burnout Inventory (MBI, Table 1), 40% of surgeons met criteria for burnout, defined as a high emotional exhaustion score and/or a high depersonalization score.[5] When broken down into the 3 components of burnout (emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment), 31.7% of respondents reported high in emotional exhaustion, 26% scored high in depersonalization, and 12.8% percent reported a low sense of personal accomplishment. Thirty percent screened positive for depression based on the PRIME-MD (Table 1) scale. Although more than 70% of respondents reported they would become a surgeon again,[5] only 51% wanted their children to pursue a surgical career. Furthermore, 36% of these surgeons were concerned they did not have enough time for their home life.

Similar results have been found in other studies focusing on various surgical subspecialties. An earlier study in 2001 surveyed 521 general and orthopaedic surgeons; both specialties had comparatively high degrees of burnout, with 32% of respondents scoring high in emotional exhaustion; 13% scored high in depersonalization, and 4% scored low in personal accomplishment.[8] Kuerer and colleagues[15] reported a 28% prevalence of burnout among surgical oncologists based on MBI criteria, with 30% screening positive for depression on the PRIME-MD scale. Kuerer and associates' findings coincide with results from Balch and colleagues,[16] who surveyed 407 surgical oncologists and found 36.1% reported burnout compared with 39.8% of surgeons from other specialties. Most studies in other subspecialties reported overall burnout rates and rates of moderate burnout exceeding 30% (Table 2).[5-8,12,17-25,41,43,45]

Over time, the prevalence of burnout among surgeons has increased. The recent Medscape Physician Lifestyle report documented burnout rates among various specialties ranging from 37% to 53%, with general surgeons nearing the top of the list, at 50%.[11] A 2015 study by Shanafelt and colleagues[6] evaluated the change in prevalence of burnout and satisfaction with work-life balance in physicians compared with other US workers between 2011 and 2014. Nineteen percent of the 35,922 physicians invited to participate completed their surveys. When assessed using the MBI, 54% of physicians reported at least 1 symptom of burnout in 2014 compared with 46% in 2011 ($p < 0.001$). Satisfaction with work-life balance also declined in physicians between 2011 and 2014 (48% vs 41%; $p < 0.001$). Specifically, the prevalence of burnout among surgeons was 53% in 2014, which was an increase from 40% in their 2009 study.[5,6]