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Prevalence of Burnout in residents of obstetrics and gynecology: A systematic review and meta-analysis

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Abstract

Background: Burnout is currently a major concern among physicians due to their high level of stress at work. There are several reports on various levels of burnout in residency programs due to several predisposing factors. The aim of this systematic review was to estimate a more precise prevalence of burnout among residents of obstetrics and gynecology.

Methods: PubMed, Science Direct and Scopus were searched to identify peer-reviewed English-language studies published from January 1974 to 2005 reporting burnout among residents of obstetrics and gynecology. The key words used in the search were as follows: Residents, gynecology and obstetrics, professional burnout, depersonalization, distress, anxiety, or emotional exhaustion. Relevant additional articles were identified from the lists of the retrieved articles.

Results: We identified 12 studies which met our criteria. A total of 2509 participants were included in this meta-analysis. The overall prevalence rate of burnout on all the three subscales was 44% (95% CI: 30 - 57) in this group of residents.

Conclusion: This meta-analysis revealed a high prevalence of burnout syndrome in residents during obstetrics and gynecology residency program. Therefore, it is recommended to consider and address this important issue to develop solutions and interventions which could improve the work condition of the medical residents.

Keywords: Burnout, Residency, Gynecology, Obstetrics, Systematic Review, Meta-Analysis.

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Introduction

Burnout is a psychological syndrome causing emotional diminution and maladaptation to interpersonal relationship beyond the usual workplace stress (1). In the last several years, burnout in residency programs has gained major attention. There are some evidences demonstrating that residency training may cause a considerable degree of burnout due to the issues related to the patients care including misdiagnosis, diagnostic dilemmas, making a mistake in prescribing medication, complex treatment decision making, suboptimal patients care (2)and diminished patient satisfaction with treatment (3,4).

Although a few studies have been conducted on burnout of residents of obstetrics and gynecology, to our knowledge, to date, no precise estimation has been made. Therefore, we conducted this systematic review and meta-analysis to provide a more precise estimation of prevalence of burnout in in this group of residents.

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Methods

Search Strategy

This systematic review was based on published peer-reviewed English-language articles. This method involves a systematic examination of selected databases using a variety of strategies, including keywords and subject headings. It allows the integration of quantitative data across studies, where they have similar outcome measures and the summary of findings where methods used are diverse. A systematic literature review is regarded as an appropriate method to collate and analyze the findings from the published studies of interest, allowing the most prominent factors associated with burnout to be ascertained. Major electronic databases were searched using the mesh terms of Prevalence Burnout, Burnout Gynecologists, Cross-sectional. The international databases searched were as follows: PubMed (January 1950 to January 2015); Scopus (January 1974 to January 2015); Science Direct (January 1982 to January 2015), and Science Information Database (up to January 2015).

Quality Evaluation

All identified papers were critically appraised independently by two reviewers. Disagreements between reviewers were resolved by consensus. Appraisal was guided by a checklist assessing clarity of the aims and research questions. STROBE checklist score was used as a standard check list for reporting the results of the included studies (5,6).

Selection Criteria

Papers were eliminated by applying our inclusion and exclusion criteria in four stages. To be included, the study had to have the following criteria: 1) To have a cross sectional design; 2) To include the prevalence of burnout in residents of gynecology and obstetrics; 3) With no abstracts on the preliminary review, or if they were available, they should not have been in English. Articles which focused on the occurrence of burnout in gynecologists and examined the causes of burnout were included. For the searches, burnout was defined as a syndrome of emotional exhaustion, cynicism (depersonalization) and reduced feelings of personal accomplishment related to working. Articles that primarily looked at other residents or medical students were excluded. The review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Fig. 1).

Data Extraction

Two reviewers used a custom data abstraction sheet to evaluate and summarize the selected articles. The abstracted information included authors, year, location, sample composition and assessment of prevalence burnout in gynecologists and obstetricians (Table 1).

Statistical Analysis

We employed random effect to generate a pooled prevalence. Random-effects modeling explicitly accounts for unmeasured variability across the values using the DerSimonian and Laird method, resulting in a pooled estimate with a wider confidence interval relative to the fixed-effects models (7). For studies that presented graded prevalence burnout (e.g., low, medium, high burnout symptoms), only the estimate for the highest category was selected. Forest plots of the estimates and 95% CIs, with the weight of each point estimate, indicated by the prevalence rate of the marker, were used to visualize the range of prevalence.

Results

Study Selection

A total of 4572 original-research articles were retrieved through the searches, the titles of which were examined by two independent reviewers. Manuscripts that did not reference burnout in gynecologists and obstetricians in the title and abstract were excluded at this phase (n, 2103). From this set, 1996 articles were excluded because of duplicate data and not having measurable outcomes. Two hundred fifty- six studies

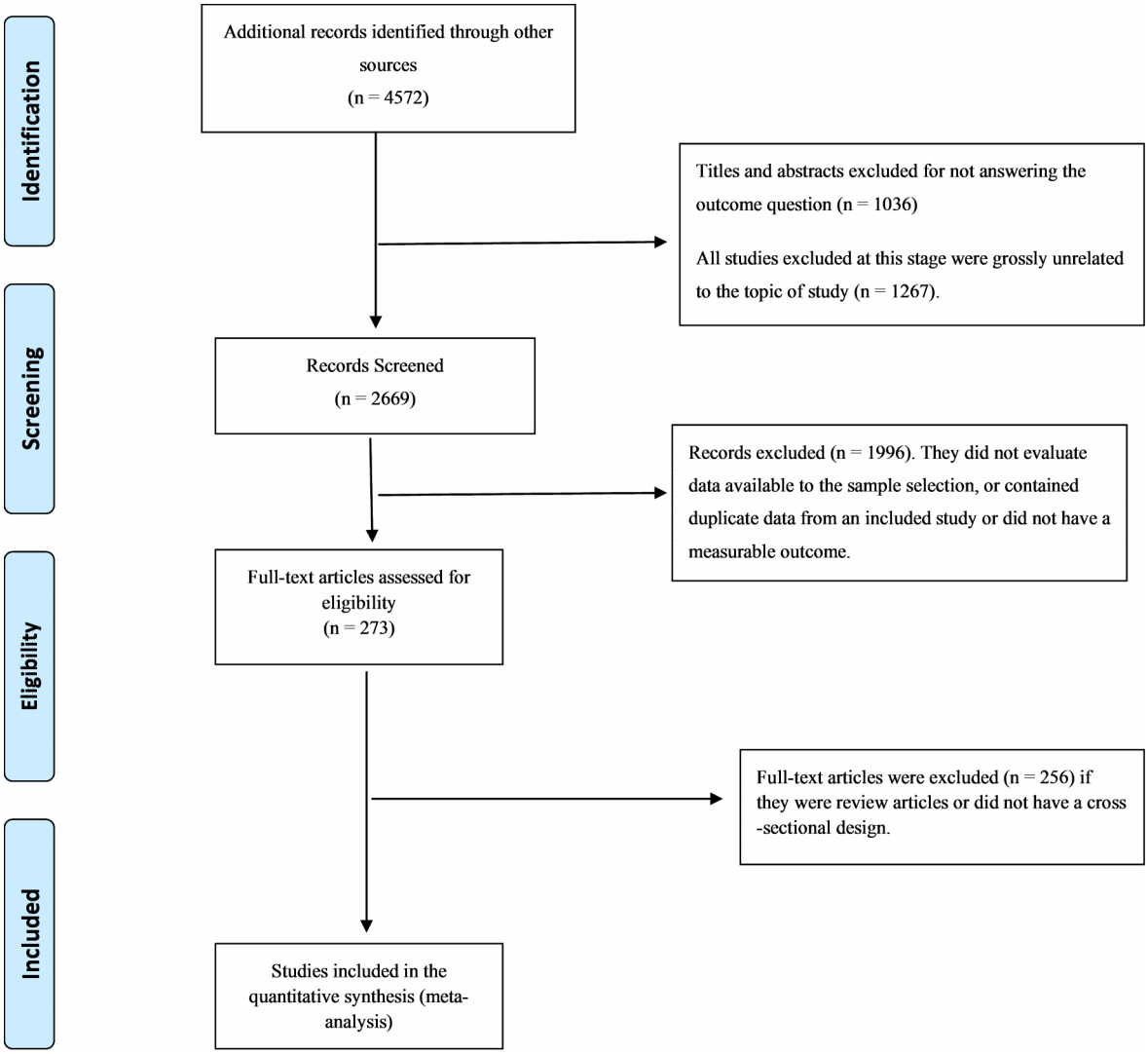

Fig. 1. Prevalence of Burnout in Gynecologist studies from 1974–2015

were excluded due to unavailability of their full-text, being a review article and not having a cross- sectional design (Fig 1). Finally, the remaining 12 articles were retained for analysis (Table 1).

Assessment Pooled Burnout Prevalence

Finally, 12 studies from different settings and countries remained for meta-analysis in order to have a pooled prevalence estimate, which was estimated to be 44% (CI 95% 30 – 57) (Fig. 2). All studies which were included in this review have reported that the Maslach questionnaire was employed to measure the rate of burnout in this group. A wide variation of prevalence of burnout was reported.

Discussion

Burnout affects various specialized groups, such as teachers and those with related professions. Still, burnout is the most studied psychological stress among healthcare specialists, particularly in clinicians. In the primary research, the rate of burnout in gynecology was found to be higher than other occupations (8). Recent studies have revealed that there are different burnout forms than occupational differences (9,10). Still, different burnout forms have been recognized; for example, emotional exhaustion was found to be higher among teachers and lower among healthcare professionals, while suspicion was higher among police officers and lower among American mental health

Table 1. Summary of Prevalence Burnout in Residents of Obstetrics and Gynecology

Author (Reference)	Sample Size	Country	Burnout Measurement	Burnout Prevalence
Graze et al., 2004 [15]	368	USA	Maslach (MBI-HSS)*	17%
Castelo -Bronco et al., 2009 [16]	109	Spain	Maslach (MBI-GS)	58%
Becker et al., 2006 [17]	125	USA	Maslach (MBI-HSS)	83%
Johns et al., 2005 [18]	109	USA	Maslach (MBI-HSS)	3%
Antalya et al., 2010 [19]	71	Spain	Maslach (MBI-GS)**	52%
Morales Y et al., 2007 [20]	27	USA	Maslach (MBI-GS)	59%
Yoon et al., 2010 [21]	388	USA	Maslach (MBI-GS)	36%
Shana felt et al., 2002 [22]	115	USA	Maslach (MBI-GS)	76%
Msaouel et al., 2010 [23]	253	Greece	Maslach (MBI-GS)	31%
Al-Dubai et al., 2010 [9]	563	Yemen	Maslach (MBI-GS)	11%
Siu et al., 2010 [24]	226	Hong Kong	Maslach (MBI-HSS)	31%
Ashkar et al., 2010 [10]	155	Lebanon	Maslach (MBI-HSS)	67%

*Maslach Burnout Inventory Human Services questionnaire
** Maslach Burnout Inventory – General Survey

workers. Causes of burnout are specifically related to the work context (11). Those job-related factors that found to c ontribute to burnout are as follows: Quantitative work excess; work-related role problems; and deficiencies in job resources such as a lack of social support (12). Therefore, causal factors are related to emotionally demanding situations in the workplace such as those that result from interactions with uncooperative, aggressive or distrustful patients, or patients with impracticable expectations, and confrontations with illness, and death (13). Previous studies have addressed the prevalence of burnout in gynecology residents using validated tools such as the

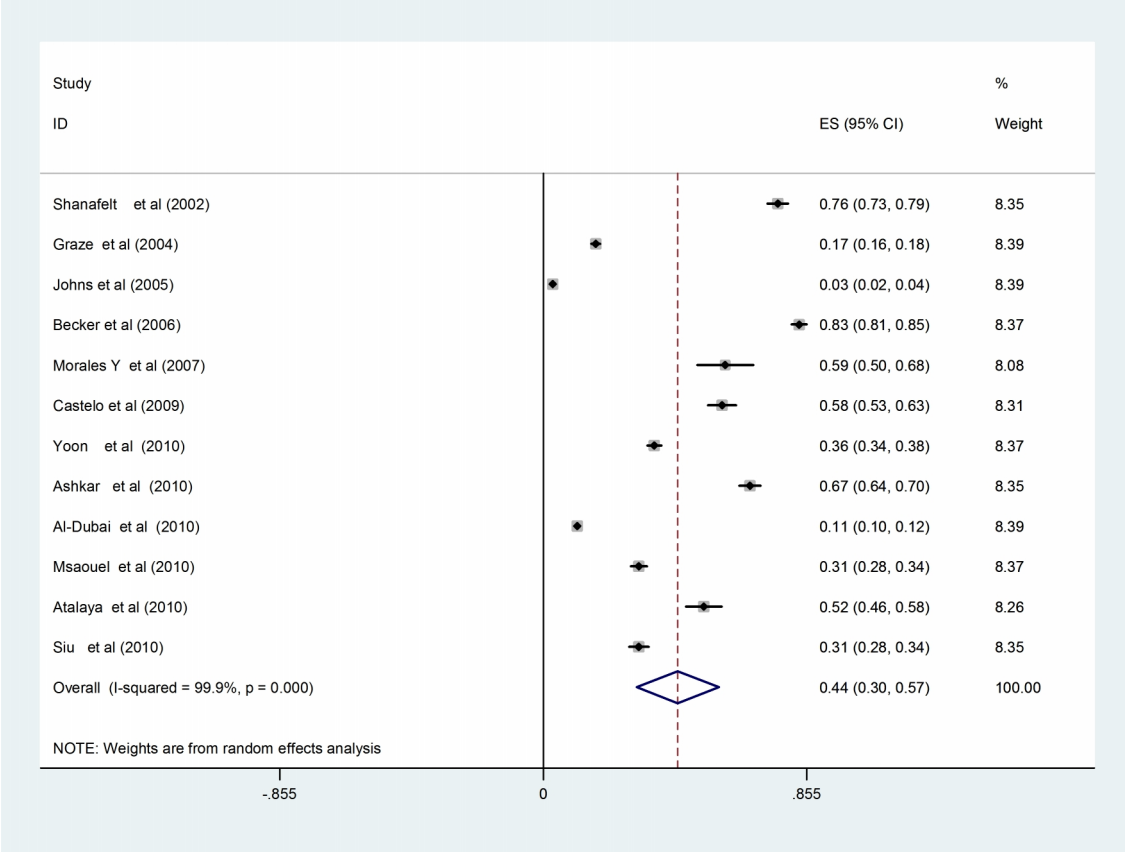

Fig. 2. Forest Plot for the Meta-analysis of the Prevalence of Burnout in Residents of Obstetrics and Gynecology

MBI questionnaire, yielding conflictive data with figures ranging from 18 to 75%. It is noteworthy to mention that some studies revealed a response rate of about 35%, which did not rule out a selection bias due to a differential risk in non- respondent participants (14). The results of this study suggest a high prevalence of burnout syndrome among gynecology residents. The fact that so little studies have been published on burnout among gynecologists is surprising given that gynecologists are relatively young and work in demanding environments which are characterized by full patient loads and long, irregular working hours. Also, they are highly dependent on supervisors' evaluations to finish their training, and have high levels of responsibility but low levels of autonomy, which are often combined with demanding home situations.

Conclusion

The findings of this meta-analysis revealed a high prevalence of burnout syndrome in residents of obstetrics and gynecology. Therefore, it is recommended to consider and address this important issue to develop solutions and interventions which could improve the work condition of the medical residents.

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