

BRIEF

Burnout Among Pharmacy Preceptors in Northern California

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Objective. The objectives of this study were to investigate the incidence of burnout syndrome among pharmacy preceptors and to identify predictors for the development of burnout in this population.

Methods. This cross-sectional survey study examined burnout syndrome among pharmacy preceptors in Northern California. Preceptors were included if they self-identified as a preceptor to advanced pharmacy practice experience (APPE) students or to postgraduate pharmacy residents in their first year of residency. Burnout was assessed using the Maslach Burnout Inventory Human Services Survey, and preceptors were classified as having burnout syndrome if they scored high on emotional exhaustion and also either scored high on depersonalization or scored low on personal accomplishment. Additionally, respondents' demographics, workplace environment, workload, and day-to-day workflow were queried to help determine predictors of burnout syndrome among this population.

Result. The study included 113 pharmacy preceptors. Of the preceptors, 22% reported scores consistent with burnout, with 57% of preceptors scoring positive for burnout in one of the three burnout criteria. On multivariate regression analysis, two independent risk factors for burnout syndrome were identified: preceptors who precepted many difficult or unmotivated learners per year and preceptors who did not feel their contributions as preceptors were appreciated by their institution.

Conclusion. The rate of burnout among pharmacy preceptors is high, with preceptors exhibiting high emotional exhaustion and low levels of personal accomplishment. Predictors of burnout syndrome for this population appear to be precepting many difficult or unmotivated learners and not feeling that one's contributions as a preceptor are appreciated.

Keywords: burnout, pharmacy, precepting, resident, student

INTRODUCTION

Burnout among health care professionals is an increasing concern, with poor well-being and positive burnout being correlated with worse patient safety, including increased medical errors.¹ In general, prominent characteristics of burnout syndrome include fatigue, poor decision-making abilities, a cynical attitude, feelings of inadequacy, and withdrawal from coworkers or patients.¹⁻⁶ The Maslach Burnout Inventory Human Services Survey (MBI-HSS) is the gold standard for assessing burnout among health care professionals. This survey characterizes burnout syndrome based on a three-dimensional model criterion that includes emotional exhaustion, depersonalization, and personal accomplishment at work. Emotional exhaustion is defined as the stress component of burnout, in which an individual feels depleted of one's emotional and physical

resources without any source of replenishment. Depersonalization represents an interpersonal dimension of burnout, where an individual displays an indifferent attitude toward their work or their colleagues due to exhaustion. Finally, personal accomplishment is measured by the perception of personal accomplishment, which represents the self-evaluation component of burnout and refers to the belief that someone who displays burnout lacks productivity at work.^{5,7,8} Feelings of emotional exhaustion and depersonalization may contribute to burnout, while the perception of personal accomplishment may serve to offset that.

The incidence and consequences of burnout among physicians and nurses have been well documented in many large trials, but data related to burnout in the pharmacy profession remain limited to select populations. Available literature has described rates of burnout in health-system pharmacy settings and pharmacy practice faculty, but little is known specifically about pharmacists who serve as experiential preceptors for students and residents.⁹⁻¹³ With the expansion in the number of pharmacy

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schools and residency programs and the continuing advancement of the pharmacy profession, demands on pharmacy preceptors have increased, as has their level of responsibility. The objectives of this study were to investigate the incidence of burnout among preceptors for pharmacy students and residents using the MBI-HSS and to identify predictors for the development of burnout in this population. Determining these key predictors of burnout may help clinical pharmacy leaders develop strategies to reduce or prevent burnout and may promote resilience and well-being among pharmacy preceptors.

METHODS

This cross-sectional survey study was reviewed and approved by the institutional review board at Touro University California College of Pharmacy. An invitation to participate in the study was distributed via email to residency program directors at health systems located in Northern California. These health systems were located using a local residency network LISTSERV. The residency program directors who received the survey invitation were asked to distribute the invitation to participate in the anonymous electronic survey to pharmacist preceptors at their organization, and the directors were also invited to participate in the survey themselves. Selecting the link and choosing to participate served as consent to participate in the study voluntarily. Participants were included in the study if they identified themselves as a preceptor of pharmacy students and pharmacy residents at a Northern California health system. Participants were excluded if they did not complete the entire survey (demographic data and MBI-HSS questions) or viewed the link and chose not to participate. The survey data was collected from December 2019 to February 2020. As an incentive to promote participation, we offered five \$25 gift cards to be distributed at random.

Surveys were built using the Qualtrics platform (Qualtrics International Inc) and contained the MBI-HSS embedded at the end of the survey. A remote online survey license for the MBI was purchased prior to study enrollment, with a purchase number of 206 copies. The surveys contained 22 statements on job-related feelings from the Maslach Burnout Inventory, including nine statements on emotional exhaustion, five statements on feelings of depersonalization, and eight statements on feelings of personal accomplishment. Participants responded to the job-related feelings statements using a six-point Likert scale to assess how frequently they felt that way. Each Likert scale allowed participants to select a score of zero if they had never experienced that feeling or a score of six if they felt that way every day. Additionally, demographics,

workplace environment, workload (including clinical and precepting responsibilities), and day-to-day workflow were queried.

The primary outcome of the study was to determine the incidence of burnout among pharmacy preceptors. Burnout was defined as a participant having a high emotional exhaustion score plus either a high depersonalization score or a low personal accomplishment score. A participant was considered to have high emotional exhaustion if their sum of emotional exhaustion statements was $> z$, where $z = \text{mean} + (\text{SD} * 0.5)$ (mean and SD were derived from the emotional exhaustion scores of the entire study population). A participant was considered to have high depersonalization if the sum of their depersonalization statements was $> z$, where $z = \text{mean} + (\text{SD} * 1.25)$. A participant was considered to have low personal accomplishment if the sum of their personal accomplishment statements was $< z$, where $z = \text{mean} + (\text{SD} * 0.1)$. Additionally, subjects scoring high on emotional exhaustion or depersonalization or low on personal accomplishment were thought to be at an increased risk of burnout syndrome. Although no universal definition of burnout exists when using the MBI scoring tool, this study took a more stringent approach by looking at all three aspects and using the above equations that were adapted by Leiter and Maslach.⁸ The secondary outcome of this study was to determine predictors of burnout among pharmacy preceptors using demographic data, preceptor workload, day-to-day clinical duties, and workplace environment.

For statistical analyses, all data were exported from Qualtrics to Excel v365 (Microsoft Corporation), and statistical analyses were conducted using Stata for Mac 14.2 (StataCorp LLC). As the survey was primarily descriptive in nature, means and standard deviations were reported for continuous data, and frequencies and percentages were reported for categorical data. Comparisons were made using chi-square tests or Fischer exact tests for categorical data and t tests for continuous data. Using univariate analysis of burnout, a forward multivariate logistic regression model was created using variables with a p value $< .2$. All analyses were conducted with two-sided type I error with $\alpha = .05$.

RESULTS

The survey was distributed to an estimated 300 preceptors located in Northern California, with 113 preceptors completing the survey (~37% response rate). Respondents' demographics and workplace environments, are described in Table 1. The majority of pharmacist preceptors included in this study had been practicing for roughly 10 years, were residency trained, and received

Table 1. Characteristics of Clinical Pharmacy Preceptors in Northern California

	Positive burnout ^a (n=25)	Negative burnout (n=88)	p value ^b
Age, years ±SD	35.7 ± 7.5	36.1 ± 7	.84
Gender (male), n (%)	10 (40)	28 (32)	.48
Relationship status, n (%)			
Single	7 (28)	33 (38)	.77
Stable partner	3 (12)	5 (6)	.28
Married	15 (60)	50 (57)	.78
Children/dependents, n (%)	7 (28)	37 (42)	.2
Postgraduate training, n (%)			>.99
First-year residents	23 (92)	82 (93)	.82
Second-year residents	13 (52)	42 (48)	
Board of Pharmacy Specialty Certification, n (%)	23 (92)	71 (81)	.24
Practice setting, n (%)			
Academic health center	20 (80)	60 (68)	.25
Non-university affiliated teaching hospital	3 (12)	15 (17)	.76
Nonteaching community hospital	2 (8)	12 (13)	.45
Veterans Affairs (VA)	0	1 (1)	1
Faculty status, n (%)			
None	9 (36)	46 (52)	.18
Adjunct	4 (16)	8 (9)	.46
Assistant	10 (40)	19 (22)	.07
Associate	0	11 (13)	.12
Professor	2 (8)	4 (5)	.61
Number of years as practicing pharmacist, mean (SD)	9.1 (6.8)	9.6 (6.5)	.71
Number of years as a preceptor, mean (SD)	7.7 (5.6)	8 (4.8)	.79
Payment structure, n (%)			
Hourly (earns overtime)	17 (68)	60 (68)	1
Salary	8 (32)	28 (32)	1
Average hours worked per week			
≤40	5 (20)	39 (44)	.04
41-50	14 (56)	37 (42)	.26
51-60	5 (20)	12 (14)	.54
>60	1 (4)	0	.33
Average weekends worked per month, n (%)			
0	2 (8)	28 (32)	.02
1	12 (48)	28 (32)	.14
≥2	11 (44)	32 (36)	.49
Hours spent per day rounding/patient visits, mean (SD)	3.4 (2.1)	3.6 (3)	.8
Hours spent per day discussing patient care with learners, mean (SD)	2 (1.5)	1.7 (1.3)	.36
Hours spent per day on teaching activities, mean (SD)	1.3 (0.7)	1.5 (1.3)	.56
Number of IPPE students precepted per year, mean (SD)	3.9 (9)	2.8 (5.3)	.46
Number of APPE students precepted per year, mean (SD)	5.4 (4.8)	5.1 (4.4)	.79

(Continued)

Table 1. (Continued)

	Positive burnout ^a (n=25)	Negative burnout (n=88)	p value ^b
Number of first- and second-year residents precepted per year, mean (SD)	3 (3.2)	2.9 (3.3)	.91
Percentage of learners who are difficult or unmotivated and required additional coaching, n (%)			
<10%	2 (8)	20 (23)	.15
10%-25%	12 (48)	46 (52)	.82
26%-50%	11 (44)	14 (16)	<.01
>50%	0 (0)	8 (9)	.2
Do you feel your contributions as a preceptor are appreciated by your institution? Yes, n (%)	11 (44)	69 (78)	<.01
Does your institution offer incentives for precepting learners? Yes, n (%)	1 (4)	18 (20)	.05
Does your institution offer preceptor development? Yes, n (%)	20 (80)	58 (66)	.79
Does your institution provide any type of tool or program to address burnout? Yes, n (%)	3 (12)	13 (15)	1

Abbreviations: IPPE=introductory pharmacy practice experience; APPE=advanced pharmacy practice experience.

^a Positive burnout was defined as a participant having a high emotional exhaustion score plus either a high depersonalization or a low personal accomplishment score

^b Chi-square test or Fischer exact tests were used for categorical data, and *t* test for continuous data to determine significance, defined as *p*<.05

certification as a Pharmacotherapy Specialist from the Board of Pharmacy Specialties. In addition, a large percentage of preceptors in the study practiced at one of the academic health centers in Northern California.

Overall, 22% of study participants reported scores consistent with burnout (high emotional exhaustion plus either high depersonalization or low personal accomplishment), with 5% of respondents scoring positive for all three burnout subscales. Fifty-seven percent of preceptors reported scores consistent for burnout in at least one of three subscales. Respondents most frequently scored high on reduced personal accomplishment (46%) followed by feelings of emotional exhaustion (33%) and depersonalization (12%) (Table 2).

On univariate analysis, numerous variables were identified as significant predictors of burnout syndrome (Table 3). Forty-four percent of preceptors who reported scores consistent with burnout precepted high numbers of difficult or unmotivated learners per year (26%-50% of their students were difficult or unmotivated), whereas only 16% of preceptors who did not report scores consistent with burnout had this percentage of difficult or unmotivated students (*p*<.01). In addition, the following variables were associated with less burnout syndrome: working ≤ 40 hours per week (20% negative burnout vs 44% positive burnout, *p*=.04), working zero weekend

shifts per month (8% negative burnout vs 32% positive burnout, *p*=.02), feeling as though one's contributions as a preceptor were appreciated (44% negative burnout vs 78% positive burnout, *p*<.01), and having incentives at one's institution for precepting (4% negative burnout vs 20% positive burnout, *p*=.05). Examples of incentives that preceptors listed were having precepting as part of a

Table 2. Burnout in Pharmacy Preceptors Categorized by Emotional Exhaustion, Depersonalization, and Personal Accomplishment

Burnout indices	No. (%)
Emotional exhaustion	
Low score (≤18)	33 (29)
Moderate score	43 (38)
High score (≥31)	37 (33)
Depersonalization	
Low score (≤6)	61 (54)
Moderate score	38 (34)
High score (≥12)	14 (12)
Personal accomplishment	
Low score (≤37)	52 (46)
Moderate score	46 (41)
High score (≥44)	15 (13)

Table 3. Logistic Regression Model for Predictors of Burnout Among Clinical Pharmacy Preceptors in Northern California

Variable	Odds ratio [95% CI]	p value
Assistant professor appointment	1.52 [0.51-4.57]	.45
≤40 Hours worked per week	0.4 [0.12-1.39]	.15
Zero weekends worked	0.29 [0.06-1.52]	.14
26%-50% Difficult or unmotivated students who required additional coaching	3.2 [1.1-9.6]	.04
Preceptors felt their contributions were appreciated by their institution	0.32 [0.11-0.94]	.03
Incentives offered for precepting	0.32 [0.04-2.78]	0.3

career ladder or promotion opportunity, earning precepting hours to take advantage of bonus or future rotation blocks off, and having educational paid time off.

On multivariate regression analysis, two independent risk factors for burnout syndrome were identified. First, preceptors who precepted many difficult or unmotivated learners per year were significantly more likely to experience burnout syndrome (odds ratio=3.2, 95% CI=1.1-9.6, $p=.04$). Second, preceptors who felt that their institution appreciated their contributions as preceptors were less likely to experience burnout syndrome (odds ratio=0.32, 95% CI=0.11-0.94, $p=.03$).

DISCUSSION

The current body of literature surrounding burnout in the pharmacy profession is limited, with no studies focusing on burnout among pharmacy preceptors. Among health-system pharmacists and pharmacy practice faculty, burnout has been reported to be as high as 61%, which raises the question of whether burnout is also high among pharmacy preceptors.^{2,3} With the constant growth of pharmacy schools and increasing numbers of residency programs, pharmacists are often tasked with taking on additional precepting roles each year. Preceptors are averaging high numbers of introductory pharmacy practice experience (IPPE) students, advanced pharmacy practice experience (APPE) students, and resident learners per year, often without time off from precepting. The increasing number of learners assigned to preceptors and the expanding demands of clinical pharmacy roles mean there is a critical need for literature examining burnout among this specific subset of pharmacists.

In our study, the incidence of burnout among pharmacy preceptors is similar to rates of burnout seen in previously published literature on health-system pharmacists and pharmacy practice faculty.^{2,3,6,13} Durham and colleagues examined burnout among health-system pharmacists and similarly found that 53.2% of their participants reported a high degree of burnout on at least one subscale of the MBI-HSS, with 8.5% of participants indicating

burnout across all three subscales. Similar to our findings, Durham and colleagues found that pharmacists tended to show high levels of emotional exhaustion and low levels of personal accomplishment (average scores were 22.9%, 6.2%, and 36.3% for feelings of emotional exhaustion, depersonalization, and low personal accomplishment, respectively).³ In addition, a study examining the incidence of burnout among pharmacy practice faculty found a similar high degree of burnout. Using a burnout definition of high emotional exhaustion, El-Ibiary and colleagues found that 41% of faculty exhibited high emotional exhaustion, similar to 33% of preceptors in our study showing signs of emotional exhaustion.¹³

We also aimed to identify potential predictors of burnout among pharmacy preceptors to help institutions develop strategies that may help reduce or prevent burnout and promote well-being among preceptors. While controlling for other factors, two predictors of burnout were identified. These included preceptors who dealt with many unmotivated or difficult learners and preceptors who did not feel as though their institution appreciated their contributions. Although not significant on multivariate regression analysis, having precepting incentives in place for preceptors appeared to protect against burnout. These findings suggest that creating a workplace environment where preceptors feel valued and appreciated may help lead to less burnout.

The predictors of burnout among pharmacy preceptors identified in this study add to the current body of literature that examines burnout among health-system pharmacists and faculty members. Jones and colleagues conducted a study looking solely at burnout among inpatient hospital pharmacists, and they identified the following factors as contributing to burnout: inadequate administrative and teaching time, uncertainty of health care reform, too many nonclinical duties, difficult pharmacist colleagues, and feeling that one's contributions are underappreciated.² Similar to our findings, both subsets of pharmacists experienced less burnout if they felt their contributions were appreciated by their institution. In addition, when taken together with our results, the time spent teaching learners outside of clinical duties, particularly those learners who are difficult or

unmotivated, appears to exacerbate burnout. And lastly, when looking at predictors of burnout among pharmacy practice faculty, high emotional exhaustion was associated with being female, of the assistant professor rank, and those without a hobby.¹³ Although not statistically significant, our study also found that a higher percentage of the pharmacy preceptors who reported scores consistent with burnout were full-time faculty at the assistant professor rank (40% vs 22%, $p=.07$). Identifying these potential predictors of burnout may help institutions mitigate burnout moving forward, in addition to providing resources for preceptors on how to manage burnout.

This study is not without limitations. Although surveys were distributed to roughly 300 pharmacy preceptors in Northern California, our response rate was only 37%, and we relied on participants to self-identify as preceptors. Also of note, the results of this study are only representative of pharmacy preceptors in one region of the United States, and most of preceptors included in the study were employed by a single academic health center, which may have different precepting demands than other institutions. Lastly, our results may have a component of selection bias, as distribution of the survey to preceptors at the various health systems may not have been unified. In addition, preceptors who were experiencing burnout when the survey was released may have refrained from voluntarily taking time out to complete the survey, which means that this study could have underestimated the incidence of burnout.

CONCLUSION

The rate of burnout among pharmacy preceptors was high, with preceptors exhibiting high emotional exhaustion and low levels of personal accomplishment. Significant predictors of burnout among preceptors included

precepting many difficult or unmotivated learners per year and not feeling as though their institution appreciated their contributions as preceptors. Future studies should aim to survey preceptors across all states and to examine the effect that various interventions have on reducing burnout.

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