Dermatology Practical & Conceptual

A Survey-Based Study of Dermatologist Research Productivity: Consideration of Restructuring the Current Academic Model

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Introduction

Lack of protected time for pursuing academic interests was the second highest burnout reason in a survey-based study of academic dermatologists [1]. In another study, dermatologists in academia vs. private practice spent 16-19x more hours doing research, teaching, and administration, but saw 59%-68% of the number of patients seen by private practice dermatologists [2]. Therefore, we hypothesized that dedicated time for research would be minimal and aimed to characterize dermatologist research practices.

Case Presentation

An anonymous voluntary survey was emailed to dermatologists using APD and WDS LISTSERVS (12/2022-4/2022). Responses were collected using REDCap. Univariable and multivariable analyses were performed using Microsoft Excel (Microsoft, Seattle, WA) and SAS (SAS Studio Release 3.8, Cary, North Carolina). Linear regression models assessed correlations between annual publications and respondent demographics, employment, and training, with $P<0.05$.

Of 158 respondents, 75% were female, with mean age 49 years, average residency graduation in 2005 (range: 1979-2021), and 73% practiced in academia (Table 1). On average, participants saw 81 patients/week during 3.2 days/week of direct patient care. Academic vs. private practice dermatologists had higher annual publications (2.64 vs 0.78 publications/year, $P=0.0004$), saw fewer patients/week (73 vs. 112 patients, $P=0.002$), and practiced fewer clinical days/week (3.0 vs 3.8 days, $P=0.003$).

The top 5% of publishers saw 70 patients/week, practiced clinical care 2.8 days/week, and published 14.5 articles/year. Annual publications increased by 0.52 articles/year per each additional hour of non-clinical time ($P=.01$), increased by 0.74 articles/year per each additional day/week dedicated to research ($P=0.005$), and decreased by 0.42 articles/year for each additional day/week seeing

Table 1. Demographics and Factors Related to Publications.

Demographics and characteristics of respondents			
		Annual Publication[a] (Mean or change from mean)	P-value
Overall		2.14	
Residency		+0.11	**0.0146**
Medical School		+0.06	**<.0001**
Satisfaction	Satisfied	2.1	0.1975
	Neutral	3.2	
	Dissatisfied	0.9	
Current research mentor		2.82	0.0589
Number of faculty mentors		+0.05	0.846
Sex	Male	3.34	**0.0103**
	Female	1.74	
Fellowship	Dermatopathology	2.6	**0.04**
	Mohs	1.3	
	Pediatric Dermatology	2.4	
	None	1.8	
Academic Affiliation	Yes	2.64	**0.0004**
	No	0.78	
Academic Job Title	Professor	14.5	**0.0155**
Job Responsibilities	Dedicated research hours	+0.11	**0.0004**
	Non-clinical protected time	+0.52	**0.0005**
	Dedicated days per week research	+0.73	**0.0155**
	Days per week seeing patients	-0.42	**0.0155**
	Administrative hours	+0.04	0.2303
	Dermatopathology	+0.01	0.53
	Consults	+0.09	0.32
	Lecturing	0.00	0.946
	Grand Rounds	+0.25	0.367
Factors related to publication rates of respondents since graduating residency.			
		Annual Publication[a] (Mean or change from mean)	P-value
Overall		2.14	
Residency		+0.11	**0.0146**
Medical School		+0.06	**<.0001**
Satisfaction	Satisfied	2.1	0.1975
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	None	1.8	
Academic Affiliation	Yes	2.64	**0.0004**
	No	0.78	

Table 1. Demographics and Factors Related to Publications. *(continued)*

Factors related to publication rates of respondents since graduating residency.			
		Annual Publication[a] (Mean or change from mean)	P-value
Academic Job Title	Professor	14.5	**0.0155**
Job Responsibilities	Dedicated research hours	+0.11	**0.0004**
	Non-clinical protected time	+0.52	**0.0005**
	Dedicated days per week research	+0.73	**0.0155**
	Days per week seeing patients	-0.42	**0.0155**
	Administrative hours	+0.04	0.2303
	Dermatopathology	+0.01	0.53
	Consults	+0.09	0.32
	Lecturing	0.00	0.946
	Grand Rounds	+0.25	0.367

[a]Annual publication was calculated by dividing the number of publications by years.

patients (P=0.0155). Number of residency publications was associated with attending publication rate (R^2=0.038, P=0.015).

Discussion

We found that protected research time was associated with higher annual publication numbers, which should not be surprising, but has not been previously quantitated. Our findings complement results of a survey-based study of 197 dermatology attendings reporting improved work-life balance with less patient care time and more dedicated research time [3]. Therefore, our findings, taken together with studies showing increased burnout rates with lack of protected research time and improved satisfaction with dedicated research time, might encourage rethinking of the current academic model.

Other medical specialties are confronted with similar problems. In a survey-based study of academic physicians, dedicated time for research/teaching decreased from 58% to 28%, while clinical service time increased from 23% to 59%, 2001-2016 [4]. In a 2016 survey of 1,671 physicians, burnout was associated with more clinical time (P=0.043), and greater job autonomy associated with lower burnout risk (P<0.001) [5]. Increased salary support, research funding, and financially crediting education/research efforts might reduce burnout rates. Basing salaries of academic physicians solely on clinical revenue discourages research pursuits [4].

Limitations include small sample size, and most participants were White and non-Hispanic.

Conclusion

We found that amongst respondents, the current academic dermatology model promotes high patient volume and limited protected time for research. Research productivity was associated with more dedicated research time and less clinical time. Therefore, we suggest restructuring the academic model to encourage diagnostic and therapeutic innovations and improved career satisfaction.

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