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Original Research

'Publish or Perish!': perception and self-appraisal of Indian physicians on academic publications: A cross-sectional study

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Abstract

Background: Research and academic publications are crucial for Indian physicians' professional growth, evidence generation, and academic advancement. It often contributes to the "publish or perish" culture. This study aims to assess Indian physicians' perceptions and self-appraisal on academic publications, for those practicing evidence-based medicine (EBM).

Methodology: A cross-sectional online survey with proper consent was conducted over two months, targeting Indian physicians practicing EBM to evaluate their views on research and publications.

Results: A total of 320 physicians participated (mean age 41.15 ± 8.94 years; 68.8% male). Most held post-graduate degrees (73.4%) and worked in government-run institutions (56.6%). A large proportion (88.7%) had prior publications, with a preference for PubMed/Medline-indexed journals (40.0%). Sixty-five percent balanced clinical and academic roles. Physicians were motivated by career advancement (31.6%) and professional recognition (34.7%). Behavioral patterns showed "addiction-like" tendencies, with many frequently checking publication metrics and tracking manuscript progress. Physicians with post-graduate qualifications, particularly in medicine, were more engaged in these behaviors. Those in central government teaching institutions showed even greater engagement.

Conclusion: This study reveals the complex dynamics of academic publishing among Indian physicians, highlighting the pressures of the "publish or perish" culture. Institutions should focus on fostering quality over quantity in publishing, providing mentorship, and promoting ethical practices to mitigate these pressures.

Keywords: Academic Publications; Research Paper; Researcher; Publish OR Perish.

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Quick Response Code:

Introduction:

Academic publication is an important aspect of medical science which promotes publishing scientifically rich evidence-based research, thus keeping the medical fraternity updated with the latest progress in the field of medicine and surgery [1].According to publication types and level of evidence, they vary widely from letter to editors, case reports, observational studies, clinical trials, systematic reviews, and meta-analysis [2].Systematic reviews and meta-analysis tops the hierarchy of Evidence-Based Medicine (EBM) amongst them [3]. Physicians are encouraged to find the highest level of evidence to answer clinical questions to keep themselves abreast of the recent advances in medicine.

Concerning one's academic pursuits and promotions, publications also help one stay afloat in the never-ending competition for academic and clinical success. Medical practitioners with good-quality publications have a higher chance of getting hired in academic medical institutions. Thus, there remains an apparent unspoken competition between them to get their coveted academic post, as also truly for academic promotion and supremacy. Often, this may lead to a flurry of frenzied publications, which has been recently denoted as 'publication addiction' (PA), a type of behavioural addiction [4]. Though the term 'addiction' in this concept is highly debatable, the author of this paper mentioned, 'Although widespread, PA is masked by its normalization within academia, as alcoholism may be accepted in a brewery.' In support of this entity, the author proposed some criteria that are similar to those of substance use disorders.[4] Another recent paper from India by Parmar 2020, focused on the topic of academic publication, albeit a bit differently, wherein he stressed 'panic publishing' during the recent COVID-19 pandemic, thus overcrowding the academia with apparently non-important and poor-quality papers. He also intrigued the readers on what might be the salience in such types of publications [5]. The former notion further found its stronghold with the number of retractions from academic journals, which was alarming in this pandemic [6]. All these points to the need and race amongst physicians in academia to stand out amongst the crowd in terms of academic publications, the motive behind which needs to be understood and addressed.

There are limited studies to date that assess perception and self-appraisal among physicians and surgeons on academic publications with regards to what they feel about it, whether they feel they are driven towards publications for academic needs to stay noticed in the academic arena or for job-related promotional purposes. The current study aimed to assess the perception and self-appraisal of Indian physicians across all disciplines on academic publications.

Materials and Methods:

Study Population & Eligibility:

The index study was a cross-sectional online survey involving Indian physicians across medical specialties (pre-clinical, para-clinical, clinical, and super-specialization disciplines) who practiced and were trained in evidence-based medicine (EBM) and consented to participate.

Study design:

Study participants were sent questionnaires through online platforms (using emails and online messaging platforms) that assessed the socio-demographic and medical practicing details of the doctors and a questionnaire targeting their perception, behavior, and self-appraisal on academic publications. The questionnaire had a written consent form embedded at the beginning, which led to the actual questions only when the participants consented to participate in the study. Before the commencement of the study, the institute's ethical committee clearance to conduct this study.

Sample size:

The questionnaire was sent to Indian physicians in different capacities of their practice across all disciplines. Data were collected for two months (September and October 2024), and all those who responded by filling out the questionnaire were included in this study.

Ethical Approval:

The study strictly followed the ethical guidelines set forth in the revised Declaration of Helsinki. Approval to conduct the research was granted by the Institutional Research Ethics Committee of IEC/AIIMS/Deoghar. Before enrolling in this study, all study participants provided informed consent. Investigators briefed about the study's purpose, methodology, and their rights, including the assurance of anonymity and the confidentiality of their data. Additionally, participants were made fully aware that participation in the study was entirely voluntary and that they might leave at any time without incurring any penalties.

Statistical analysis:

Data was analyzed using the Statistical software SPSS Version 23.0. Continuous variables were presented as mean and standard deviation, while categorical data were presented as percentages. Descriptive statistics were performed, and necessary statistical associations were obtained. A $p< 0.05$ was considered as statistically significant.

Results:

Socio-demographic and medical practice characteristics

Table 1 presents socio-demographic, medical practice, Academic research and publication-related practices characteristics. A total of 320 physicians participated (mean age 41.15 ± 8.94 years; 68.8% male). The majority held postgraduate degrees (73.4%), followed by super-specialty (19.1%) and undergraduate degrees (7.5%). Specializations were distributed across medicine and allied disciplines (30.0%), surgery and allied (22.8%), pre-/para-clinical (20.6%), and super-specialty (19.1%).

Most respondents worked in central government teaching institutions (56.6%), followed by state government (25.6%), private teaching institutions (9.7%), and other settings including independent practice (8.1%). The mean research experience was 10.43 ± 7.85 years.

Nearly two-thirds (65.0%) of participants considered themselves equally engaged in clinical and academic roles, while 21.6% were predominantly academicians/researchers. Majority (88.7%) of participants reported prior publications, with a preference for PubMed/Medline-indexed journals (40.0%). Most respondents had profiles on ResearchGate (71.3%) and Google Scholar (60.3%); only 21.9% used PubMed. Awareness of author metrics was high: H-index (73.1%), i10-index (62.5%), and ResearchGate score (53.8%). Majority (94.7%) reported claiming authorship only when contributing directly.

Table 1: Socio-demographic, medical practice, Academic research and publication-related characteristics

Variable	Category	f (%)
Age (in years)	-	41.15±8.94
Gender	Male	220 (68.8)
	Female	100 (31.2)
Professional qualification	Undergraduate	24 (7.5)
	Postgraduate	235 (73.4)
	Super specialty	61 (19.1)
Specialization	Medicine and Allied	96 (30.0)
	Surgery and allied	73 (22.8)
	Pre- and para-clinical	66 (20.6)
	Super specialty	61 (19.1)
	None	24 (7.5)
Current place of work	Central Government Teaching Institutions	181 (56.6)
	State Government Teaching Institutions	82 (25.6)
	Private Teaching Institutions	31 (9.7)
	Others	26 (8.1)
Research experience (in Years)	--	10.43±7.85
How do you describe your-self	Predominately Academician/ Researcher	69 (21.6)
	Predominately Clinician	43 (13.4)
	Both equally	208 (65.0)
Prior health related publication	No	36 (11.3)
	Yes	284 (88.7)
Publication preference	PubMed Indexed	128 (40.0)
	Non-PubMed Indexed	63 (19.7)
	Both	117 (36.6)
	None	12 (3.8)
Do you have Research Gate account	No	92 (28.7)
	Yes	228 (71.3)
Do you have Google Scholar account	No	127 (39.7)
	Yes	193 (60.3)
Do you have PubMed account	No	250 (78.1)

	Yes	70 (21.9)
Authorship practice	Take authorship in those I have contributed	303 (94.7)
	Take authorship in those I have not contributed	17 (5.3)
Do you know Research Gate score Mean for an author?	No	148 (46.3)
	Yes	172 (53.8)
Do you know H index score Mean for an author?	No	86 (26.9)
	Yes	234 (73.1)
Do you know i10 score Mean for an author?	No	120 (37.5)
	Yes	200 (62.5)

Behavioral aspects of academic research and publications

Table 2 depicts the behaviour aspects of academic research and publications. Key motivators for publication included scientific progress (36.6%), professional recognition (34.7%), and academic promotions (31.6%). Nearly one-fourth (26.3%) of participants often felt publications enhanced peer recognition, and 32.2% occasionally compared publication counts with colleagues. Simultaneous submissions were uncommon (3.1% always, 72.5% never), and only 4.4% believed that citing a journal's articles always improved acceptance chances. A minority (4.1%) favored less time-intensive publications (e.g., case reports) for faster output.

Few of participants (7.5%) consistently shared publications on social media, whereas 32.2% never did. Following rejection, 40.9% are often introspected; blaming editors (3.8% always) was rare. Self-promotion behaviors were infrequent (6.3% always self-cited, 4.1% always encouraged others to cite).

Almost half (49.7%) of participants always felt accomplished on publication, and 15.0% consistently felt urgency to publish ideas before others. After submission, 37.8% monitored manuscript progress. Excessive time spent on publication was reported by 12.5% (always), and 18.1% consistently felt anxious without new work. Pleasure derived from publication exceeded other activities in 32.8% of respondents. Neglecting other priorities for publication was uncommon (2.8% always).

Table 2: Study participant's behavioral aspects concerning academic research and publications.

Variable	**Never** **f (%)**	**Rarely** **f (%)**	**Sometime** **f (%)**	**Often** **f (%)**	**Always** **f (%)**
How frequently you check your research profile in a week in ResearchGate/ Google Scholar?	59 (18.4)	75 (23.4)	91 (28.4)	66 (20.6)	29 (9.1)
How frequently you check your publications in search engines in a week?	52 (16.3)	98 (30.6)	97 (30.3)	53 (16.6)	20 (6.3)
How frequently you check your citations, RG score, H index in a week	83 (25.9)	92 (28.7)	89 (27.8)	38 (11.9)	18 (5.6)
Do you compare your number of publications with others (eg. colleagues)?	90 (28.1)	72 (22.5)	103 (32.2)	38 (11.9)	17 (5.3)
Do you compare your RG score, H index, i10 index with others (eg colleagues)?	112 (35.0)	79 (24.7)	54 (16.9)	37 (11.6)	38 (11.9)
To what extent do you feel accomplished when you see your paper published?	17 (5.3)	10 (3.1)	57 (17.8)	77 (24.1)	159 (49.7)
To what extent do you feel an urgent need to publish an idea lest it be taken up by others in the field?	37 (11.6)	40 (12.5)	112 (35.0)	83	48 (15.0)

				(25.9)	
To what extent do you tend to closely follow all the stages of your submitted paper from submission to acceptance/ rejection?	R489oy7666660	21 (6.6)	47 (14.7)	112 (35.0)	121 (37.8)
To what extent do you tend to devote excessive time in the habit of publishing your work?	26 (8.1)	52 (16.3)	108 (33.8)	94 (29.4)	40 (12.5)
To what extent do you feel worried/anxious if you find there is no new paper/work with you to submit and publish?	34 (10.6)	37 (11.6)	107 (33.4)	84 (26.3)	58 (18.1)
To what extent do you get worried/ anxious if there is a delay between submission of your paper and its acceptance?	34 (10.6)	37 (11.6)	37 (11.6)	84 (26.3)	58 (18.1)
To what extent do you tend to simultaneously submit your work/ paper in more?	232 (72.5)	27 (8.4)	34 (10.6)	17 (5.3)	10 (3.1)
To what extent do you feel that citing another work from a journal in your own paper will increase the chance of your paper to get accepted in the same journal?	131 (40.9)	68 (21.3)	71 (22.2)	36 (11.3)	14 (4.4)
To what extent do you tend to go for works that takes less time to draft in a paper (eg, case reports, letter to editors, cross-sectional descriptive studies etc) than works that are time consuming (eg, clinical trials, systematic reviews etc) so as to get more publications in lesser time?	89 (27.8)	83 (25.9)	84 (26.3)	51 (15.9)	13 (4.1)
To what extent do you feel an urge in sharing your published paper to your peers in social media groups?	103 (32.2)	70 (21.9)	82 (25.6)	41 (12.8)	24 (7.5)
To what extent do you tend to introspect/ scrutinise yourself when your submitted paper is rejected by a journal?	22 (6.9)	21 (6.6)	64 (20.0)	131 (40.9)	82 (25.6)
To what extent do you tend to blame the editor/ peer reviewers when your submitted paper is rejected by a journal?	80 (25.0)	94 (29.4)	111 (34.7)	23 (7.2)	12 (3.8)
To what extent do you tend to blame the co-authors when your submitted paper is rejected by a journal?	197 (61.6)	80 (25.0)	25 (7.8)	14 (4.4)	4 (1.3)
To what extent do you tend to get pleasure (compared to other pleasurable things in life) in seeing/ wanting to see your paper published?	34 (10.6)	29 (9.1)	56 (17.5)	96 (30.0)	105 (32.8)
To what extent do you tend to control your urge to publish?	57 (17.8)	54 (16.9)	104 (32.5)	76 (23.8)	29 (9.1)
To what extent do you tend to neglect other important things in life in pursuing for publication?	97 (30.3)	82 (25.6)	91 (28.4)	41 (12.8)	9 (2.8)
To what extent do you feel that your published work is an important contribution in the scientific world?	23 (7.2)	33 (10.3)	98 (30.6)	106 (33.1)	60 (18.8)
To what extent do you tend to cite your own paper in any future works/publications so as to increase your own citations?	78 (24.4)	89 (27.8)	85 (26.6)	48 (15.0)	20 (6.3)
To what extent do you tend to suggest others to cite your own paper so as to increase your own citations?	172 (53.8)	55 (17.2)	66 (20.6)	14 (4.4)	13 (4.1)
What according to you is the most important reason YOU engage in research publication:					
For scientific progress in the field of medicine.	24 (7.5)	23 (7.2)	66 (20.6)	90 (28.1)	117 (36.6)

For getting a job (eg, faculty post)	38 (11.9)	34 (10.6)	78 (24.4)	77 (24.1)	93 (29.1)
For promotions in job	30 (9.4)	28 (8.8)	72 (22.5)	89 (27.8)	101 (31.6)
For professional recognition	29 (9.1)	26 (8.1)	77 (24.1)	77 (24.1)	111 (34.7)
For feeling accomplished in research publications	28 (8.8)	30 (9.4)	84 (26.3)	88 (27.5)	90 (28.1)
To stand out among my peers	51 (15.9)	45 (14.1)	75 (23.4)	84 (26.3)	65 (20.3)
For feeling compelled by my seniors to publish	129 (40.3)	64 (20.0)	79 (24.7)	28 (8.8)	20 (6.3)

Associations with physician profile

Table 3 shows the relationship between physician profile and Academic research and publication. Gender was not significantly associated with publication-related behaviors. Physicians with postgraduate qualifications were significantly more likely to check research metrics, compare outputs, monitor manuscript progress, and feel accomplishment upon publication ($p<0.001$).Specialists in medicine and allied disciplines showed similar trends, with higher metric-checking, urgency to publish, and anxiety when lacking new work ($p<0.05$).Physicians in central government teaching institutions demonstrated the highest engagement in metric-checking, simultaneous submissions, introspection after rejection, and publication-related gratification ($p<0.01$).

Table 3: Relationship between physician profile and Academic research and publication

Items	Category	Gender		P-value / Chi – square	Professional qualification			p-value / Chi – square	Specialization					p-value/ Chi – square	Current place of work				p-value /Chi – square
		M	F		UG	PG	SP		Medicine & allied	Surgery & allied	Pre/ para-clinical	Super speciality	None		Central Govt Teaching Inst.	State Govt Teaching Inst.	Private Teaching Inst.	Others	
How frequently you check your research profile in a week in ResearchGate/ Google Scholar?	**Never**	37	22	0.420/ 8.13	16	34	09	**0.001/ 45.56**	18	13	08	07	13	**0.019/ 29.82**	21	16	08	14	**0.001/ 33.88**
	Rarely	56	19		03	53	19		27	13	14	17	04		47	17	06	05	
	Sometimes	62	29		05	70	16		27	22	22	16	04		54	22	09	06	
	Often	42	23		00	56	10		18	18	14	14	02		38	20	07	01	
	Always	23	23		00	22	07		06	07	08	08	01		21	07	01	00	
How frequently you check your publications in search engines in a week?	**Never**	35	17	0.895/ 3.55	13	32	07	**0.001/ 30.72**	18	08	06	09	11	**0.018/ 29.97**	22	09	06	15	**0.0001/ 40.85**
	Rarely	66	31		05	74	19		30	27	20	15	06		60	27	08	03	
	Sometimes	71	26		02	78	17		28	23	21	23	02		52	28	10	07	
	Often	35	18		03	38	12		16	11	11	10	50		35	12	05	01	
	Always	13	07		01	13	06		04	04	08	04	00		12	06	02	00	
How frequently you check your citations, RG score, H index in a week?	**Never**	50	33	0.177/ 11.46	18	54	11	**0.001/ 41.14**	29	20	10	10	08	**.0001/ 39.80**	29	25	10	19	**0.0001/ 44.87**
	Rarely	68	23		05	63	24		24	20	21	21	24		58	21	10	03	
	Sometimes	65	24		01	76	12		30	18	18	22	14		59	19	07	04	
	Often	22	16		00	28	10		09	11	11	07	11		22	13	03	00	
	Always	15	03		00	14	04		04	04	04	06	04		13	04	01	00	
Do you compare your number of publications with others (eg. colleagues)?	**Never**	65	25	0.680/ 5.71	19	53	18	**0.001/ 44.22**	27	24	15	10	14	0.072/ 24.88	45	21	10	14	0.219/ 15.43
	Rarely	54	18		04	48	20		17	13	16	21	05		36	24	07	05	
	Sometimes	65	37		00	89	14		35	23	24	19	02		65	23	10	05	
	Often	24	14		01	32	05		12	10	08	06	02		25	09	02	02	
	Always	12	05		00	13	04		05	03	03	05	01		10	05	02	00	
Do you compare your RG score, H index, i10 index with others (eg colleagues)?	**Never**	79	32	0.326/ 9.19	05	87	20	**0.001/ 55.49**	36	31	16	24	05	**0.001/ 40.80**	61	30	12	09	**0.003/ 30.01**
	Rarely	62	17		01	56	22		19	17	22	18	03		44	19	12	04	
	Sometimes	33	21		00	45	09		17	13	14	09	01		39	11	01	03	
	Often	22	15		05	27	05		11	09	09	03	05		25	09	02	01	
	Always	24	14		13	20	05		13	03	05	07	10		12	13	04	09	
To what extent do you feel accomplished when you see your paper published?	**Never**	09	08	0.139/ 12.27	08	08	01	**0.001/ 44.80**	07	01	01	02	06	**0.001/ 45.38**	06	03	00	08	**0.0001/ 41.34**
	Rarely	10	00		00	07	03		05	01	00	03	01		07	02	00	01	
	Sometimes	36	20		06	42	09		10	17	11	12	07		32	12	08	05	
	Often	56	21		03	59	15		33	15	15	13	01		45	21	07	04	
	Always	109	50		07	119	33		41	39	39	31	09		91	44	16	08	
To what extent do you feel an urgent need to	**Never**	24	13	0.800/ 4.59	11	21	05	**0.001/ 31.17**	13	06	01	08	09	**0.0001/**	18	09	03	07	0.478/ 11.60
	Rarely	26	14		03	30	07		16	05	10	04	05		21	11	04	04	

publish an idea lest it be taken up by others in the field?	**Sometimes** **Often** **Always**	74 63 33	37 20 15		06 02 02	83 64 37	23 17 09		30 26 11	30 20 12	25 14 16	21 22 06	06 01 03	**42.84**	69 47 26	28 20 14	12 08 04	03 08 04	
To what extent do you tend to closely follow all the stages of your submitted paper from submission to acceptance/ rejection?	**Never** **Rarely** **Sometimes** **Often** **Always**	11 16 34 79 80	08 05 13 33 40	0.863/ 3.93	09 02 05 05 03	07 15 32 86 95	03 04 10 21 23	**0.001/ 50.93**	05 10 11 37 33	01 05 10 26 30	00 03 11 19 33	04 01 11 25 20	09 01 04 05 05	**0.000 1/ 62.08**	7 12 25 65 72	05 06 08 29 34	01 01 09 12 08	06 02 05 06 07	**0.015/ 25.06**
To what extent do you tend to devote excessive time in the habit of publishing your work?	**Never** **Rarely** **Sometimes** **Often** **Always**	18 38 71 65 28	08 14 37 28 12	0.906/ 3.40	07 01 10 03 03	14 41 80 72 28	05 10 18 19 09	**0.001/ 20.41**	06 16 33 26 12	05 09 32 19 08	01 11 20 23 11	04 12 16 22 07	03 07 05 06 05	**0.045/ 26.72**	13 28 63 58 19	03 15 28 24 12	02 04 11 09 05	08 05 06 03 04	**0.015/ 25.06**
To what extent do you feel worried/anxious if you find there is no new paper with you to submit and publish?	**Never** **Rarely** **Sometimes** **Often** **Always**	26 25 80 56 33	08 12 27 27 25	0.303/ 9.48	06 02 07 05 04	24 26 79 59 47	04 09 21 20 07	0.268/ 9.96	09 12 32 23 20	08 09 29 18 09	03 08 16 19 20	07 06 21 22 05	07 02 09 02 04	**0.021/ 29.50**	16 23 64 52 26	07 08 24 19 24	03 03 08 11 06	08 03 11 02 02	**0.008/ 26.90**
To what extent do you get worried/ anxious if there is a delay between submission of your paper and its acceptance?	**Never** **Rarely** **Sometimes** **Often** **Always**	26 25 80 56 33	08 12 27 27 25	0.303/ 9.48	06 02 07 05 04	24 26 79 59 47	04 09 21 20 07	0.268/ 9.96	09 12 32 23 20	08 09 29 18 09	03 08 16 19 20	07 06 21 22 05	07 02 09 02 04	**0.021/ 29.50**	16 23 64 52 26	07 08 24 19 24	03 03 08 11 06	08 03 11 02 02	**0.008/ 26.90**
To what extent do you tend to simultaneously submit your work/ paper in more?	**Never** **Rarely** **Sometimes** **Often** **Always**	160 20 24 10 06	71 07 10 07 04	0.982/ 1.95	13 00 06 03 02	173 22 23 10 07	46 05 05 04 01	0.077/ 14.18	74 06 10 03 03	55 06 08 02 02	48 06 05 05 02	38 09 08 05 01	17 00 03 02 02	0.592/ 14.09	143 11 19 06 02	54 09 06 05 08	21 04 02 04 00	14 03 07 02 00	**0.001/ 34.38**
To what extent do you feel that citing another work from a journal in your own paper will increase the chance of your paper to get accepted in the same journal?	**Never** **Rarely** **Sometimes** **Often** **Always**	96 43 49 21 11	34 25 22 15 03	0.597/ 6.44	10 04 07 01 02	92 56 52 25 10	131 68 71 36 14	0.431/ 8.02	48 16 19 08 05	25 18 15 10 05	23 18 14 11 00	23 10 19 07 02	12 06 04 00 02	0.186/ 20.79	78 35 41 18 09	31 22 15 11 03	12 06 07 04 02	10 05 08 03 00	0.920/ 5.91
To what extent do you tend to go for works	**Never** **Rarely**	69 56	19 27	0.343/ 8.99	09 01	60 62	20 20	0.149/ 12.04	24 28	16 23	19 17	19 15	11 00	0.238/ 19.61	53 51	53 51	06 10	09 06	0.593/ 10.26

that takes less time to draft in a paper (eg, case reports, letter to editors, cross-sectional descriptive studies etc) than works that are time consuming (eg, clinical trials, systematic reviews etc) so as to get more publications in lesser time?	**Sometimes** **Often** **Always**	56 30 09	28 21 04		06 06 02	65 38 10	13 07 01		23 15 06	19 12 03	16 13 01	20 06 01	06 05 02		44 26 07	44 26 07	11 03 01	05 06 00	
To what extent do you feel an urge in sharing your published paper to your peers in social media groups?	**Never** **Rarely** **Sometimes** **Often** **Always**	69 48 53 30 20	33 22 29 11 04	0.694/ 5.58	06 07 04 03 04	72 49 67 32 15	25 14 11 06 05	0.317/ 9.30	34 20 20 13 09	21 16 22 11 03	23 14 14 11 04	16 15 19 06 05	09 05 07 00 03	0.754/ 11.85	59 39 47 19 17	24 21 21 11 05	10 06 07 06 02	10 04 07 05 00	0.821/ 7.53
To what extent do you tend to introspect/ scrutinise yourself when your submitted paper is rejected by a journal?	**Never** **Rarely** **Sometimes** **Often** **Always**	14 14 43 91 58	08 07 21 40 23	0.889/ 3.62	05 01 09 05 04	14 14 44 102 61	03 06 11 24 17	**0.037/** **16.38**	08 09 11 43 25	05 03 14 33 18	01 03 16 22 24	04 05 15 27 10	04 01 08 06 05	0.079/ 24.50	07 10 33 84 47	07 05 19 26 25	02 03 04 14 08	06 03 08 07 02	**0.011/** **25.83**
To what extent do you tend to blame the editor/ peer reviewers when your submitted paper is rejected by a journal?	**Never** **Rarely** **Sometimes** **Often** **Always**	54 70 70 19 07	26 23 41 04 05	0.372/ 8.66	08 06 06 00 04	57 69 84 18 07	15 19 21 05 01	**0.053/** **15.33**	24 25 37 06 04	17 25 26 04 01	14 20 25 06 01	17 18 18 07 01	08 06 05 00 05	**0.016/** **30.34**	37 54 73 11 06	23 29 18 07 05	10 07 08 05 01	10 04 12 00 00	**0.029/** **22.89**
To what extent do you tend to blame the co-authors when your submitted paper is rejected by a journal?	**Never** **Rarely** **Sometimes** **Often** **Always**	134 55 19 10 02	62 25 06 04 02	0.982/ 1.95	12 07 02 02 01	114 59 20 09 03	41 14 03 03 00	0.717/ 5.37	58 26 08 03 01	50 14 06 03 00	42 18 03 03 00	35 15 07 04 00	12 07 01 01 03	**0.007/** **33.06**	117 40 13 08 03	46 25 07 03 01	20 06 03 02 00	14 09 02 01 00	0.936/ 5.58
To what extent do you tend to get pleasure (compared to other pleasurable things in life) in seeing/	**Never** **Rarely** **Sometimes** **Often** **Always**	23 20 38 70 69	11 09 18 26 35	0.925/ 3.14	07 03 06 03 05	21 22 40 74 78	06 04 10 19 22	0.083/ 13.94	12 06 19 31 28	05 10 13 23 22	04 06 10 21 25	06 06 07 18 24	07 01 07 03 06	0.133/ 22.32	20 16 32 59 54	04 05 14 22 37	01 05 05 10 10	09 03 05 05 04	**0.003/** **29.46**

wanting to see your paper published?																			
To what extent do you tend to control your urge to publish?	**Never** **Rarely** **Sometimes** **Often** **Always**	38 39 74 49 20	19 15 29 27 09	0.891/ 3.60	06 04 06 03 05	39 40 80 59 17	12 10 18 14 07	0.416/ 8.18	20 14 28 23 11	15 11 23 21 03	08 16 21 15 06	07 11 25 14 04	07 02 07 03 05	0.252/ 18.97	30 34 62 38 17	12 16 24 22 08	06 01 12 10 02	09 03 06 06 02	0.362/ 13.09
To what extent do you tend to neglect other important things in life in pursuing for publication?	**Never** **Rarely** **Sometimes** **Often** **Always**	71 58 60 26 05	26 24 30 15 04	0.754/ 5.02	12 04 04 02 02	66 65 66 32 06	19 13 21 07 01	0.230/ 10.52	29 29 25 09 04	18 20 24 09 02	17 19 18 10 02	19 12 19 11 00	14 02 05 02 01	0.270/ 19.32	47 44 58 26 06	24 27 19 9 03	12 05 09 05 00	14 06 05 01 00	0.172/ 16.44
To what extent do you feel that your published work is an important contribution in the scientific world?	**Never** **Rarely** **Sometimes** **Often** **Always**	15 23 67 72 43	08 10 30 34 17	0.952/ 2.69	07 02 07 04 04	13 22 74 84 42	03 09 17 18 14	**0.004/** **22.57**	07 12 33 27 17	05 09 21 27 11	01 04 21 23 17	03 07 18 22 11	07 01 05 07 04	**0.036/** **27.48**	10 14 57 65 35	04 13 27 24 14	04 01 06 11 09	05 05 08 06 02	**0.040/** **21.79**
To what extent do you tend to cite your own paper in any future works/publications so as to increase your own citations?	**Never** **Rarely** **Sometimes** **Often** **Always**	52 63 55 34 16	26 25 30 14 04	0.755/ 5.02	08 04 08 00 04	53 70 61 37 14	17 15 16 11 02	0.126/ 12.61	22 32 24 11 07	22 17 18 13 03	13 15 22 11 05	15 17 15 12 02	06 08 06 01 03	0.680/ 12.90	38 57 52 26 08	20 23 21 11 07	11 05 05 06 04	09 04 07 05 01	0.302/ 13.98
To what extent do you tend to suggest others to cite your own paper so as to increase your own citations?	**Never** **Rarely** **Sometimes** **Often** **Always**	112 41 48 11 08	59 14 18 03 05	0.857/ 4.00	11 04 04 01 04	122 41 54 11 7	39 10 08 02 02	**0.070/** **14.49**	56 19 15 01 05	44 10 14 04 01	31 14 14 05 02	28 09 18 04 02	13 03 05 00 03	0.228/ 19.82	109 27 36 05 04	36 15 18 07 06	13 09 06 02 01	14 04 06 00 02	0.134/ 17.42
For scientific progress in the field of medicine.	**Never** **Rarely** **Sometimes** **Often** **Always**	17 16 38 62 87	07 07 27 28 30	0.359/ 5.80	02 04 05 04 09	19 14 52 69 81	03 05 09 17 27	0.428/ 8.05	08 05 19 27 37	08 04 17 20 24	05 04 15 13 20	01 07 10 22 21	02 03 05 08 06	0.595/ 14.05	13 14 38 51 65	07 05 17 24 29	02 02 06 09 12	02 02 05 06 11	1.00/ 1.10
For getting a job (eg, faculty post)	**Never** **Rarely** **Sometimes** **Often** **Always**	25 26 54 49 66	13 08 23 28 27	0.710/ 5.43	05 03 08 06 02	26 22 58 59 70	07 09 12 12 21	0.316/ 9.32	11 09 23 24 29	06 08 15 23 21	06 09 16 17 18	11 06 16 08 20	04 02 08 05 05	0.759/ 11.77	17 18 50 50 46	12 08 19 16 27	07 02 04 09 09	02 06 05 02 11	0.072/ 19.76
For promotions in job	**Never**	23	07	0.540/	03	20	07	**0.020/**	09	05	05	08	03	0.414/	16	05	06	03	0.185/

	Rarely	23	05	6.97	03	17	08	**18.19**	08	06	07	05	02	16.56	13	06	03	06	16.13
	Sometimes	46	26		12	49	11		19	17	11	14	11		45	16	07	04	
	Often	58	30		03	72	14		26	26	21	13	03		53	22	08	06	
	Always	70	31		03	77	21		34	19	22	21	05		54	33	07	07	
For professional recognition	**Never**	23	06	0.126/	01	22	06	**0.005/**	08	07	05	06	03	0.869/	16	07	03	03	0.499/
	Rarely	17	09	12.59	05	16	05	**21.91**	06	05	08	05	02	9.95	13	04	05	04	11.35
	Sometimes	47	30		08	63	06		22	24	15	10	06		47	18	07	05	
	Often	47	29		03	62	12		24	13	18	18	04		43	26	05	03	
	Always	86	25		07	72	32		36	24	20	22	09		62	27	11	11	
For feeling accomplished in research publications	**Never**	20	08	0.921/	02	22	04	0.610/	10	04	04	09	01	0.518/	16	08	02	02	0.838/
	Rarely	22	08	3.20	02	19	09	6.33	04	08	08	07	03	15.09	18	05	03	04	7.29
	Sometimes	56	28		07	67	10		23	18	21	14	08		52	19	08	05	
	Often	60	27		06	64	18		32	19	13	17	07		50	26	07	05	
	Always	62	28		07	63	20		27	24	20	14	05		45	24	11	10	
To stand out among my peers	**Never**	40	11	0.336/	03	38	10	0.528/	13	11	08	14	05	0.681/	29	13	06	03	0.997/
	Rarely	28	17	8.72	03	33	09	7.08	17	08	11	07	02	12.88	25	11	05	04	2.78
	Sometimes	46	29		10	55	10		23	14	17	12	09		45	16	08	06	
	Often	58	25		05	63	16		22	24	18	17	03		46	25	06	07	
	Always	48	17		03	46	16		21	16	12	11	05		36	17	06	06	
For feeling compelled by my seniors to publish	**Never**	93	35	0.748/	07	92	30	0.524/	38	29	25	30	07	0.911/	69	35	16	09	0.716/
	Rarely	45	19	5.08	06	45	13	7.11	17	16	15	10	06	9.05	43	12	04	05	8.84
	Sometimes	54	25		08	59	12		27	16	15	14	07		42	24	06	07	
	Often	17	11		01	22	05		07	08	08	04	01		18	05	03	02	
	Always	11	09		02	17	01		07	04	03	03	03		09	06	02	03	

Discussion

The "Publish or Perish!" phenomenon is a pervasive issue within the medical academia that comes with significant pressures and implications [7]. Therefore, this study aimed to assess the perceptions and self-appraisals of Indian physicians regarding their academic publication activities.

The study surveyed 320 Indian physicians, predominantly males (68.8%), with a substantial proportion specializing in medicine and allied fields (30%). The majority were employed in central government medical teaching institutions (56.6%) followed by state government-run institutions (25.6%), reflecting the high academic environment where publication pressure is often more pronounced. They reported to be equally invested in research apart from being a clinician (65%) followed by those who predominantly considered themselves as a researcher only (21.6%). This is commensurate with the finding that most are from government medical teaching institutions, where the 'researcher' responsibility is equally important for the physicians. An Indian study published in 2016, however reported the abysmal state of publication output from the different Indian medical institutions, with an alarming 57.3% of these institutions having no publications in 10 years [8].

An overwhelming majority of the respondents (88.7%) had previous academic publications, with most of them (40.0%) preferring PubMed/Medline-indexed journals, followed by both PubMed and non-PubMed indexed journals (36.6%). This is commensurate with the recently published medical teachers' eligibility criteria, published by the National Medical Commission (NMC) of India in 2022, that warrants publication in MEDLINE, PMC, Science Citation Index Expanded (SCIE), Scopus, DOAJ and Embase-indexed journals [9].

The study identified that the motivations for publishing among Indian physicians were diverse. The primary reasons included advancing the field of medicine, securing academic promotions, achieving professional recognition, and obtaining a sense of accomplishment. They also reported comparing their publications and author metrics with others. These motivations align with those described in an editorial, which stated that academic publications are the most critical criterion for appointment and promotion within academia. Nonetheless, the pressure to publish and obtain related grants can disrupt the normal academic activities of a department or institution and create undue pressure on academicians [10].

A notable proportion of respondents believe that publishing is essential for securing faculty positions, while 31.6% see it as crucial for academic promotions. Due to this pressure in academic institutions, some authors may deliberately choose predatory journals to advance their careers [11]. A study at a Canadian business school revealed that most faculty members had published in predatory journals, and there was a positive correlation between these publications and receiving internal research awards [12]. Researchers from the Hanken School of Economics in Finland argue that most authors are not deceived into publishing in predatory journals but instead make a calculated decision to do so [13]. This aligns with the "publish or perish" culture, where academic success and career advancement heavily depend on publication records. Consequently, the pressure to publish can create an environment where the quantity of publications is prioritized over quality.

The study also addressed ethical issues in academic publishing. A small but notable percentage of participants admitted to practices such as claiming authorship without significant contribution or simultaneous submissions to multiple journals. These findings are consistent with several studies that reported an increase in authorship proliferation, including the mean number of authors per publication, the number of authors with advanced research degrees, and the geographic diversity of articles [14-16].The factors contributing to this proliferation are multifaceted, including inappropriate authorship practices like ghost and guest authorship, as well as multicenter trials [17].These behaviors reflect the pressures faced by researchers to publish and the potential ethical dilemmas they encounter. Ensuring

integrity in research and publication practices is crucial to maintaining the credibility of scientific literature.

The study's exploration of behavioral aspects related to academic publishing revealed several notable trends. Many physicians reported checking their research profiles and publication metrics regularly. This behavior reflects a growing emphasis on quantitative measures of academic success, such as the H-index and RG score, which can influence career prospects and professional reputation. This is similar to a classic psychoactive drug use strategy of keeping a steady supply of the drug is echoed by constantly having several articles at various stages of publication [4].

The concept of "publication addiction" emerged as a significant theme, akin to that of behavioral addiction. In this study, participants reported feeling an urgent need to publish, experiencing anxiety when not having new work to submit, and prioritizing publication activities over other aspects of life. These features are similar to those identified in publication addiction, such as an intense desire to continue publishing, deriving emotional satisfaction from various stages of the publishing process, dedicating excessive time to publication activities, overestimating the importance of one's articles, believing that one's work is widely read, blaming others for rejections, and developing behaviors and strategies to support the habit [4, 16].These findings indicate that the pressures associated with academic publishing can have significant psychological and behavioral impacts on researchers, potentially leading to salami publications, duplicate publications, plagiarism, and fabricated results.

The study also highlighted the impact of professional qualifications and institutional settings on publication behaviors. Physicians with postgraduate qualifications were more likely to engage in publication-related activities, such as checking their metrics and feeling accomplished upon publication. Similarly, those working in central government institutions exhibited higher levels of publication-related behaviors compared to their counterparts in other settings. These differences can be attributed to higher academic and research expectations in central government institutions, where publication records are often critical for career advancement and recognition. The competitive nature of these environments may exacerbate the pressures to publish, leading to observed behaviors.

The findings of this study have several implications for the academic and medical communities in India. The strong emphasis on publishing for career advancement and recognition underscores the need for a balanced approach that values both the quantity and quality of publications. Academic institutions and regulatory bodies should consider measures to reduce the undue pressures of publishing, such as recognizing diverse contributions to medical science and fostering a supportive research environment. Moreover, addressing the psychological impacts of publication pressures is crucial. Encouraging collaborative research and promoting a culture of ethical publishing practices can also mitigate the negative consequences of PA.

The study has certain limitations worth mentioning. Being a cross-sectional study with an online mode of data collection, there lies an inherent issue of not getting correct responses. This can also be debated by the fact that the personal details (eg, name) were not asked during data collection, which negates the fact that the responses obtained from them may echo what they practice with respect to their publications.

Conclusion

The findings of this study underscore the multifaceted nature of academic publishing among Indian physicians. While publications are crucial for career advancement and contribute to medical knowledge, the associated behaviors and pressures can lead to mixed outcomes. The concept of PA and the ethical dilemmas highlighted in the study call for a more nuanced understanding of the academic environment and the need for supportive policies that prioritize quality over quantity. Moving forward, institutions should consider implementing measures to mitigate the pressures of the "publish or perish" culture.

Providing mentorship, promoting ethical research practices, and fostering a balanced approach to academic publishing are some of them.

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