Routledge
Taylor & Francis Group

Journal of Workplace Behavioral Health

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/wjwb20

Quality of work life and job satisfaction among early-career pharmacists in Africa's most populous country: A nationwide survey in Nigeria

AbdulMuminu Isah, Samuel C. Ofili, Azeez B. Aina, Jude E. Ogbonna, Chisom S. Ibenekwu, Victor C. Amaechi, Malunwanne B. Ohagwu, Arinze A. Okeke, Christian C. Ohama, Samuel C. Okenwa, Rita N. Oparaocha & Blessing O. Ukoha-Kalu

To cite this article: AbdulMuminu Isah, Samuel C. Ofili, Azeez B. Aina, Jude E. Ogbonna, Chisom S. Ibenekwu, Victor C. Amaechi, Malunwanne B. Ohagwu, Arinze A. Okeke, Christian C. Ohama, Samuel C. Okenwa, Rita N. Oparaocha & Blessing O. Ukoha-Kalu (22 Nov 2023): Quality of work life and job satisfaction among early-career pharmacists in Africa's most populous country: A nationwide survey in Nigeria, Journal of Workplace Behavioral Health, DOI: 10.1080/15555240.2023.2284698

To link to this article: https://doi.org/10.1080/15555240.2023.2284698

Published online: 22 Nov 2023.

JOURNAL OF WORKPLACE BEHAVIORAL HEALTH
https://doi.org/10.1080/15555240.2023.2284698

Routledge
Taylor & Francis Group

Quality of work life and job satisfaction among early-career pharmacists in Africa's most populous country: A nationwide survey in Nigeria

AbdulMuminu Isah[a], Samuel C. Ofili[a], Azeez B. Aina[b], Jude E. Ogbonna[a], Chisom S. Ibenekwu[a], Victor C. Amaechi[a], Malunwanne B. Ohagwu[a], Arinze A. Okeke[a], Christian C. Ohama[a], Samuel C. Okenwa[a], Rita N. Oparaocha[a], and Blessing O. Ukoha-Kalu[a,c]

[a]Department of Clinical Pharmacy and Pharmacy Management, Faculty of Pharmaceutical Sciences, University of Nigeria Nsukka, Nsukka, Nigeria; [b]Department of Pharmacy Practice, Purdue University, West Lafayette, Indiana, USA; [c]School of Medicine, University of Nottingham, Nottingham, UK

ABSTRACT

This study examined the factors affecting the quality of work life and job satisfaction among early-career pharmacists in Nigeria. This was a cross-sectional survey conducted across the six geopolitical zones in Nigeria. We used the database of licensed pharmacists in each selected state to identify eligible participants. Information sheets were sent to all potential participants through email. If interested, they signed the consent form and were sent the survey online to be completed and returned within 24 h. Validated questionnaires were used to evaluate their quality of work life and job satisfaction. Descriptive statistics (frequency, mean, and standard deviation) were used to summarize the data. Of a total of 373 participants; 323 (86.6%) were single, and 245 (65.7%) were working in government-owned hospitals. The findings showed that the quality of work life information affects the job satisfaction of early-career pharmacists. Reasons reported for poor job satisfaction were poor remuneration, increased workload, a lack of employer support, and an unconducive work environment. Suggestions for possible interventions included an increase in remuneration, an accommodating work atmosphere, and flexible working hours. Our findings show a direct relationship between quality of work life and job satisfaction; predictors of job satisfaction were salary, employer assistance, health insurance, and length of leave.

ARTICLE HISTORY
Received 28 April 2023
Accepted 13 November 2023

KEYWORDS
Work life; job satisfaction; pharmacists; survey

CONTACT Blessing O Ukoha-Kalu blessing.ukoha-kalu@nottingham.ac.uk School of Medicine, University of Nottingham, Nottingham, UK

Introduction

The extent to which people feel positively or negatively about their jobs is known as job satisfaction (Singh et al., 2019). Not only does job satisfaction among pharmacists ensure the attraction and retention of healthcare personnel, but it also contributes to the quality of patient care (Iheanacho & Odili, 2022). Employee satisfaction increases their willingness to work and supports the success of the organization (Adeniji et al., 2019). Pharmacy professionals weigh other career prospects against their existing positions by comparing them on a variety of criteria, such as pay and benefits, location, working conditions, and the possibility of promotion. These qualities come in prepackaged forms, and pharmacists are rarely able to pick only the qualities they love and avoid the ones they abhor. The degree of pharmacists' job satisfaction and its use as a stand-in for professional utility is measured by the congruence between the type of work they do and the circumstances in which they do it, on the one hand, and their conception of the "ideal job," on the other (Carvajal et al., 2018). It is a multifaceted concept that contrasts the reality of a workplace with employees' goals and expectations, enabling social and administrative pharmacists to assess the well-being brought on by experiences in a role and workplace.

It is believed that the inability to achieve the ideal pharmacist-patient balance in Nigeria is due in part to a rising trend of early-career pharmacists leaving the country and their profession for other work fields (Ekpenyong et al., 2018). The demand for pharmacy services in Nigeria, including both retail and clinical settings, affects the size of the pharmacy workforce (Ekpenyong et al., 2013; Ihekoronye & Osemene, 2022). If there is a shortage of pharmacists in certain areas, it can lead to an uneven distribution of healthcare services. Job satisfaction can be explored in terms of personal factors and the work environment. Job characteristics, salary, promotions, and relationships with peers and supervisors are the main factors that have a significant affect job satisfaction. The relationship between fatigue levels and job satisfaction, stress levels on the job, organizational commitment, and desire to leave is inversely correlated (Nagar, 2012). It is believed that promoting pharmacists' physical and mental health will be essential for raising work engagement and concentration, boosting job satisfaction, and enhancing job performance and quality of service (Al-Omar et al., 2019). Workload management, peer support networks, and stress management programs are some of the ways to help and support the mental health of pharmacists (Abrams et al., 2022; Johnston et al., 2022; Mutschler et al., 2022).

Presently, the Nigerian workforce is experiencing an exodus of pharmacists to other countries, especially those in Europe and Asia (Aspden et al., 2021; Ogaboh et al., 2020). The early-career pharmacists who had practised

pharmacy for less than five years were more likely to leave the profession when compared to other pharmacists who had been practising for five years or more (Aspden et al., 2021). At the time of this study, no study has fully explored the factors that could affect the quality of work life and job satisfaction among early-career pharmacists in Nigeria. This study examined the factors affecting the quality of work life and job satisfaction among early-career pharmacists in Nigeria.

Methods

Study design and participants

This was a cross-sectional survey of early-career pharmacists across the six geopolitical zones in Nigeria. In this study, early-career pharmacists were referred to licensed pharmacists with five or less years of practice.

Setting

The study was conducted across the six geopolitical zones in Nigeria (states). Two states were conveniently sampled from each geopolitical zone. The geopolitical zones were southwest (Lagos and Ogun), southeast (Enugu and Anambra), south-south (Edo and Rivers), north-central (Kogi and Plateau), northwest (Kano and Sokoto), and northeast (Adamawa and Bauchi).

Sampling

Participants were randomly sampled from different practice settings, such as hospital pharmacies, community pharmacies, and academic pharmacy practices. Every state has a record of licensed pharmacists, and we used this record to sample the study participants.

Eligibility criteria

The study's inclusion criteria required that a prospective respondent should have graduated from a pharmacy school and either currently undergoing the one-year compulsory internship training or the one-year compulsory national service. Practising pharmacists who were not in any of the programs but who had less than five years of postgraduation experience were also included in the study. Eligible respondents who did not provide informed consent were excluded from the study.

Sample size

This was a nationwide study. Thus, the traditional six geopolitical zones in the country were considered in the study population. Two states from each of the zones were randomly selected. A total sample size of 373 was representative of the population, assuming a 5% error margin, 95% confidence interval, and 50% response distribution rate. The sample size calculation was conducted using Raosoft's Online Sample Size Calculator. The total sample size was proportionately distributed among participating states. A 100% response rate was realized in the study, primarily because the data collection was shared among the authors based on states and perhaps because the respondents were younger adults who had frequent access to internet service.

As of 2022, the total number of registered pharmacists in Nigeria, including pharmacist interns, was 25,000. There are no official stratified datasets or estimates that are specific to early-career pharmacists in Nigeria; however, we used the database of licensed pharmacists in each state to identify eligible participants. These records were provided by the state coordinators of the pharmacist licensing body in Nigeria, also known as the Pharmacists Council of Nigeria (PCN). Assuming an error margin of 5% at a 95% confidence interval with a population size of 25,000, the estimated sample size for this study was 379.

Participant recruitment and data collection

Participant information sheets were sent to all potential participants through emails. If interested, they signed the consent form for the study online. Those who indicated an interest in participating in the study were sent the survey online to be completed and returned within 24 h. All data collection for this study was undertaken between August 8, 2022, and September 25, 2022.

Instruments for data collection and outcomes

Validated questionnaires on Job Satisfaction and Quality of Work Life (Ahmad & Yusuf, 2013; Iheanacho & Odili, 2022; Swamy et al., 2015) were adapted and used to evaluate their quality of work life and job satisfaction (Table 1), although the Satisfaction Scale (Warr et al., 1979) was modified, re-validated and used to evaluate their satisfaction level. Job satisfaction among early-career pharmacists was measured using the low, moderate, and high-level grading adapted from the quality of work satisfaction among employees in Iraq (Ibrahim et al., 2021). Quality of work life levels with an average below 2.5 were considered low, those between 2.5 and 3.5 were

Table 1. Socio-demographic characteristics of the respondents ($N = 373$).

Characteristics		Frequency	Percentage
Gender	Female	191	51.2
	Male	182	48.8
Age	20 – 25	147	39.4
	26 – 30	187	50.1
	31 – 35	34	9.1
	>35	5	1.3
Marital Status	Married	50	13.4
	Single	323	86.6
Country of study	Cameroon	1	0.3
	India	6	1.6
	Nigeria	362	97.2
	Philippines	1	0.3
	Togo	2	0.5
	Ukraine	1	0.3
Educational Degree	B. Pharm	354	94.9
	M. Pharm	4	1.1
	Pharm D	15	4.0
Stage of Service	3 Years Post NYSC	45	12.1
	Internship	235	63
	NYSC	93	25
Practice Setting	Government Hospital	245	65.7
	Private Hospital	9	2.4
	Community Pharmacy	79	21.2
	Academia	3	0.8
	Pharmaceutical Industry	11	2.9
	Others	26	7.0
Geopolitical Zone	North-Central	78	20.9
	North-East	8	2.1
	North-West	6	1.6
	South-East	152	40.8
	South-South	43	11.5
	South-West	85	22.8

considered moderate, and those beyond 3.5 were considered high. Outcome measures were quality of work life and job satisfaction among early-career pharmacists in Nigeria.

Data analysis

Descriptive statistics were used to outline respondents' characteristics, although Chi-square analysis was used to determine the distribution of socio-demographic factors in reference to the average Quality of Work Life (QOWL). Multivariate logistic regression was used to predict the socio-demographic factors associated with low and high quality of work life at $p < .05$ and to adjust for confounders. For the Chi-square analysis, the average of the sum of QOWL was used to segregate the respondents into low, medium, and high QOWL, with an average score below 2.5 representing low QOWL. Scores between 2.5 and 3.5 were moderate, although scores greater than 3.5 were high. The dependent variable for the binary logistic regression was dichotomized into low and high QOWL with the sum of scores less than and greater than 35.5 (median) representing low and high

qualities respectively. The analysis was done with IBM Statistical Products and Service Solution (SPSS) for Windows, Version 23.0 (IBM Corp, Version 23.0, Armonk, NY, USA) (George & Mallery, 2019).

Ethical considerations

Ethical clearance for this study was obtained from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital (Reference Number: NHREC/05/01/2008B-FWA00002458-1RB00002323), issued on May 10, 2022. Written consent was obtained from each participant before enrolling in the study.

Results

Out of 379 potential participants who had given written or verbal consent to participate, the total number of respondents who completed the online survey was 373, culminating in a response rate of 98.4%. Many of the respondents were female (191, 51.2%), between the ages of 26 and 30 years (187, 50.1%), and primarily Nigerian (362, 97.2%). Eleven of the respondents (2.8%) obtained their Pharmacy degree in international countries with the majority holding a Bachelor of Pharmacy (B.Pharm) degree (354, 94.9%).

A high proportion of study participants were undergoing internship training at the time of the survey (235, 63%), and most respondents worked in government hospitals (245, 65.7%). In Table 2, a cumulative number of early-career pharmacists who participated in the survey were not satisfied with the remuneration/pay associated with the pharmacy profession (206, 55.2%). The satisfaction level on health insurance inclusion in place of work among participants showed a high level of dissatisfaction among respondents (129, 34.6%).

Table 2. Job satisfaction of early-career pharmacists in Nigeria ($N = 373$).

	Highly Dissatisfied	Dissatisfied	Moderately Satisfied	Satisfied	Highly Satisfied
			n (%)		
Work perception	33 (8.8)	44 (11.8)	192(51.5)	89 (23.9)	15 (4.0)
Work flexibility	34 (9.1)	52 (13.9)	164 (44.0)	110 (29.5)	13 (3.2)
Remuneration/pay	87 (23.3)	119 (31.9)	116 (31.1)	48 (12.9)	3 (0.8)
Workload	36 (9.7)	85 (22.8)	138 (37.0)	95 (25.5)	19 (5.1)
Opportunity for clinical enhancement	47 (12.6)	77 (20.6)	161 (43.2)	73 (19.6)	15 (4.0)
Employer support and guidance	39 (10.5)	67 (18.0)	143 (38.3)	100 (26.8)	24 (6.4)
Work atmosphere	28 (7.5)	73 (19.6)	155 (41.6)	102 (27.3)	15 (4.0)
Feeling of accomplishment	35 (9.4)	91 (24.4)	151 (40.5)	88 (23.6)	8 (2.1)
Work and Social Life Balance	36 (9.7)	95 (25.5)	148 (39.7)	81 (21.7)	13 (3.5)
Health Insurance Inclusion	103 (27.6)	129 (34.6)	91 (24.4)	41 (11.0)	9 (2.4)
Opportunity at workplace	51 (13.7)	102 (27.3)	144 (38.6)	68 (18.2)	8 (2.1)
Work routine	46 (12.3)	68 (18.2)	161 (43.2)	83 (22.3)	15 (4.0)
Duration of leave	61 (16.4)	55 (14.7)	118 (31.6)	114 (30.6)	25 (6.7)

Table 3. Distribution of respondents' socio-demographic characteristics and their average levels of work-life quality ($N = 373$).

		Quality of work life Information						
		Low		Moderate		High		
		N	%	*N*	%	*N*	%	*p*-value
Gender	Female	62	16.6	96	25.7	33	8.8	.642
	Male	52	13.9	100	26.8	30	8.0	
Age	20–25	52	13.9	69	18.5	26	7.0	.291
	26–30	52	13.9	107	28.7	28	7.5	
	>30	10	2.6	20	5.4	9	2.4	
Marital Status	Married	13	3.5	25	6.7	12	3.2	.334
	Single	101	27.1	171	45.8	51	13.7	
Educational Degree	B. Pharm	108	29.0	188	50.4	58	15.5	.807
	Others[a]	6	1.6	8	2.1	5	1.4	
Stage of Service	3 Years Post NYSC	13	3.5	21	5.6	11	2.9	.002*
	Internship	58	15.5	137	36.7	40	10.7	
	NYSC	43	11.5	38	10.2	12	3.2	
Practice Setting	Hospital	75	20.1	150	40.2	29	7.8	0.000*
	Community Pharmacy	33	8.8	28	7.5	18	4.8	
	Others[b]	6	1.6	18	4.9	16	4.3	
Geopolitical Zone	North-Central	27	7.2	35	9.4	16	4.3	.236
	North-East/North-West	5	1.3	8	2.1	1	0.3	
	South-East	40	10.7	87	23.3	25	6.7	
	South-South	21	5.6	18	4.8	4	1.1	
	South-West	21	5.6	47	12.6	17	4.6	
Licensure	Yes	52	13.9	65	17.4	28	7.5	.167
	No	54	14.5	110	29.5	28	7.5	
	Written the exam	8	2.1	21	5.6	7	1.9	

NYSC: National Youth Service Corps; Hospital: Government and private hospitals.
[a]PharmD and MPharm.
[b]Academic and industrial Pharmacy.
*Significant at *p*-value <.05.

From Table 3, early-career pharmacists interning (137, 3.7%) and working in hospital settings (150, 40.2%) have mostly experienced moderate QOWL with significant *p*-values of .002 and <.001, respectively. Multivariate analysis of the study supports the hypothesis that socio-demographic factors of early-career pharmacists have a close association with their QOWL (Table 4). The result of the logistic regression showed that the stage of service (p-value $< .001$), practice settings (p-value $= .36$), and licensure status have significant relationships with the level of quality of work life experience among early-career pharmacists (Table 4). Early-career pharmacists currently enrolled in the paramilitary and mandatory National Youth Service Corp (NYSC) program have over 66% odds of having a low-quality work life (p-value $= .008$) compared to 3 years post NYSC experience (Table 5). The odds of having a high quality of work life for respondents in other practice settings were approximately three times greater than those in hospital settings. The result showed no significant association between participants who have taken the licensure exam and quality of work-life experience ($p = .431$) compared to those who had already been licensed. However, the odds of a high quality of work life

Table 4. Socio-demographic predictors of the quality of work life of respondents ($N = 373$).

		B	S.E.	Exp(B)	Sig.
Gender	Male	0.142	0.255	1.153	0.577
Age (Years)	20–25				0.639
	26–30	0.221	0.260	1.247	0.396
	>30	−0.001	0.455	0.999	0.999
Marital status	Single	−0.071	0.357	0.931	0.842
Educational degree	Others[a]	0.505	0.570	1.657	0.376
Stage of service	3 Years Post NYSC				0.000*
	Internship	0.208	0.487	1.231	0.669
	NYSC	−1.169	0.444	0.311	0.008*
Practice setting	Hospital				0.036*
	Community Pharmacy	0.184	0.310	1.202	0.553
	Others[b]	1.206	0.480	3.339	0.012*
Geopolitical zone	North-Central				0.213
	North-East/North-West	−0.339	0.644	0.712	0.598
	South-East	0.040	0.321	1.041	0.900
	South-South	−0.377	0.422	0.686	0.371
	South-West	0.536	0.352	1.710	0.127
Licensure	Yes				0.017*
	No	1.394	0.493	4.030	0.005*
	Written the exam	0.244	0.310	1.276	0.431
	Constant	−0.172	0.623	0.842	0.783

NYSC: National Youth Service Corps; Hospital = Government and private hospitals.
[a]PharmD and MPharm.
[b]Academic and industrial Pharmacy.
*Significant at *p*-value <.05.

among those who had not renewed their practicing license for the year is 303% greater than those who are already licensed to practice ($p = .005$)

Discussion

We evaluated the quality of work life, job satisfaction, and possible interventions to improve job satisfaction among early-career pharmacists in Nigeria. This study showed that early-career pharmacists in Nigeria had fair job satisfaction, and their socio-demographic characteristics and quality of work life played a major role in job satisfaction. Higher remuneration and health insurance were associated with better job satisfaction. A good working environment can make employees feel more comfortable at work, and this can be considered an external non-reward motivational incentive (Allscheid & Cellar, 1996; Lai, 2011). Some of the participants also reported that poor relationships with their supervisors and peers influenced their satisfaction with what they were doing. Improving the physical and mental health of early-career pharmacists is believed to be the key to improving their work engagement, concentration, and job performance (Al-Omar et al., 2019; Fiabane et al., 2013).

Recently, pharmacists have started offering preventative health tests and treatments that have historically been the responsibility of medical doctors and other care providers, in addition to their crucial roles as sources of health-related information (Bell et al., 2016). Enhancing pharmacist

Table 5. Possible strategies to improve the respondents' job satisfaction ($N = 373$).

	Intervention information					
	Disagree		Agree			
	Frequency	Percentage	Frequency	Percentage	Mean	SD
The governing body should look into better remuneration	7	1.9	366	98.1	1.98	± 0.14
Employing organizations should post early-career pharmacists to different practice settings to broaden their horizons and opportunity	16	4.3	357	95.7	1.96	± 0.20
More experienced Pharmacists should create a good and accommodating work atmosphere	6	1.6	367	98.4	1.98	± 0.13
More experienced pharmacists should dedicate more time serving as a guide rather than leaving the workload entirely for them as this could improve their clinical skills and in turn bring a sense of accomplishment	4	1.1	369	98.9	1.99	± 0.10
Employing organizations should create a flexible work time to ensure a balanced work life	3	0.8	370	99.2	1.99	± 0.09
Overall Intervention	5	1.3	368	98.7	1.99	± 0.12

responsibilities and patient health outcomes hinges on ensuring effective job satisfaction among pharmacists. The study recommends potential enhancements in job satisfaction, including higher compensation, creating a supportive workplace environment, and offering flexible work schedules.

According to the present study, the stage of service was a predictor of the quality of work life of early-career pharmacists. Those who were currently serving (in the NYSC scheme) were found to have a higher chance of poor quality of work life compared to those who had served earlier. This is probably because intern pharmacists in Nigeria are offered fewer days of annual leave when compared to post-intern pharmacists and some chances licensed pharmacists in Nigeria are recruited into permanent positions that have better remuneration. In addition, early-career pharmacists with full licensure were found to be predisposed to a better quality of work life

compared to those who had a temporary license. Getting full licensure brings pharmacists to take full responsibility for their duty, permitting them to make certain decisions on their own without being dependent on their registered colleagues, as in the case of those with a temporary license, thereby improving their confidence in the profession and contributing to their job satisfaction. The place of practice was also a predictor of quality of work life, as those practising in hospitals had a higher chance of lower quality of work life compared to those in other settings. This is probably because of no strict regulations and no call duty in other settings, unlike in the hospitals. Also, a very short duration of leave in many hospitals in Nigeria could be a factor, together with the fact that many do not like the hospital working environments in Nigeria. In most Nigerian states, early-career pharmacists in hospital and community pharmacy settings are entitled to 20–25 days of annual leave, increasing to 30 days with a long duration of service (Ukeje et al., 2020).

Other published works have determined the predictors of the quality of work life of pharmacists in different settings. Similar studies conducted in Malaysia by Mohamed et al. found that pharmacists who had been employed for more than seven years tended to be happier with their jobs (Manan et al., 2015). Another research by Ibrahim et al., who assessed job satisfaction among community pharmacists in Iraq, discovered that factors such as working conditions, recognition, and income had the highest impact on job satisfaction. A recent study reported that salary increases represented the highest indicator of job satisfaction (Iheanacho & Odili, 2022). A similar study that assessed the intern satisfaction level concluded that job satisfaction among intern pharmacists was moderate and was influenced by the intern's place of employment, perceived fairness in the workplace, perception of preceptors' and own competence (Phua et al., 2017).

Strengths and limitations of the study

This is one of the first studies focusing on early-career pharmacists, addressing a specific group within the pharmacy workforce. We believe that this specificity will enhance the relevance and applicability of the findings. Early-career pharmacists often experience unique challenges as they transition into the workforce. The study sheds light on emerging issues that may not be as prevalent among more experienced pharmacists. However, some of the limitations need discussion. First, intern pharmacists were overrepresented in this study which may not be representative of early-career pharmacists in Nigeria, hence generalizations of the study findings should be treated with caution. Second, this was a cross-sectional survey of early-career pharmacists and might not capture the full complexity

of experiences and emotions that early-career pharmacists face. Qualitative research methods could complement the survey to provide a deeper understanding.

Research implications

The findings suggested that managers should focus on variables other than only physical and financial ones to increase job satisfaction. The data strongly suggests a few strategies that will significantly increase the employment satisfaction of early-career pharmacists. Some of these interventions include providing better remuneration to pharmacists by the government body, posting early-career pharmacists to different practice settings by employing organizations to broaden their horizons and opportunities, creating a sound and accommodating work atmosphere for more experienced pharmacists and early-career pharmacists, and dedicating more time serving as a guide rather than leaving the workload entirely for the early-career pharmacists as this could improve their clinical skills and in turn bring a sense of accomplishment, and creating flexible work time to ensure a balanced quality work life by the employing organizations. Findings from this study have established a baseline understanding of the quality of work life and job satisfaction among early-career pharmacists, which can be used for future comparisons and tracking trends.

Conclusion

Our findings show a direct relationship between quality of work life and job satisfaction. The most effective predictors of job satisfaction are salary, employer assistance and direction, the inclusion of health insurance, and length of leave. Suggested interventions to improve the quality of work life and job satisfaction of early-career pharmacists should be considered in future studies. To increase early-career pharmacists' job satisfaction, employers must go beyond financial considerations.

Acknowledgements

The authors wish to thank all those who participated in the study.

Authors' contributions

BOU-K, AI and SCO conceptualized the design of the study. All authors participated in the nationwide data collection, and data analysis and prepared the first draft of the manuscript. BOU-K revised the manuscript for publication. All authors gave consent for the submission of the manuscript.

Ethical approval

Ethical clearance for this study was obtained from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital. Written consent was obtained from each participant before enrolling in the study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

We did not receive external funding for this study.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

Abrams, M. P., Salzman, J., Espina Rey, A., & Daly, K. (2022). Impact of providing peer support on medical students' empathy, self-efficacy, and mental health stigma. *International Journal of Environmental Research and Public Health*, *19*(9), 5135. doi:10.3390/ijerph19095135

Adeniji, A. A., Osibanjo, A. O., Iruonagbe, T. C., Olawande, T., Ibidunni, A. S., & Olokundun, M. A. (2019). From job satisfaction to organizational commitment: The mediating influence of perceived treatment of diversity among Nigeria's public healthcare employees. *Open Access Macedonian Journal of Medical Sciences*, *7*(12), 2031–2035. doi:10.3889/oamjms.2019.346

Ahmad, A., & Yusuf, M. D. (2013). Technology and traditional correlates of job satisfaction: Survey of nigerian medical professionals

Al-Omar, H. A., Arafah, A. M., Barakat, J. M., Almutairi, R. D., Khurshid, F., & Alsultan, M. S. (2019). The impact of perceived organizational support and resilience on pharmacists' engagement in their stressful and competitive workplaces in Saudi Arabia. *Saudi Pharmaceutical Journal*, *27*(7), 1044–1052. doi:10.1016/j.jsps.2019.08.007

Allscheid, S. P., & Cellar, D. F. (1996). An interactive approach to work motivation: The effects of competition, rewards, and goal difficulty on task performance. *Journal of Business and Psychology*, *11*(2), 219–237. doi:10.1007/BF02193860

Aspden, T. J., Silwal, P. R., Marowa, M., & Ponton, R. (2021). Why do pharmacists leave the profession? A mixed-method exploratory study. *Pharmacy Practice*, *19*(2), 2332. doi:10.18549/PharmPract.2021.2.2332

Bell, J., Dziekan, G., Pollack, C., & Mahachai, V. (2016). Self-care in the twenty first century: A vital role for the pharmacist. *Advances in Therapy*, *33*(10), 1691–1703. doi:10.1007/s12325-016-0395-5

Carvajal, M. J., Popovici, I., & Hardigan, P. C. (2018). Gender differences in the measurement of pharmacists' job satisfaction. *Human Resources for Health*, *16*(1), 33. doi:10.1186/s12960-018-0297-5

Ekpenyong, A., Udoh, A., Kpokiri, E., & Bates, I. (2018). An analysis of pharmacy workforce capacity in Nigeria. *Journal of Pharmaceutical Policy and Practice*, *11*(1), 20. doi:10.1186/s40545-018-0147-9

Ekpenyong, C. E., Daniel, N. E., & Aribo, E. (2013). Associations between academic stressors, reaction to stress, coping strategies and musculoskeletal disorders among college students. *Ethiopian Journal of Health Sciences*, *23*(2), 98–112.

Fiabane, E., Giorgi, I., Sguazzin, C., & Argentero, P. (2013). Work engagement and occupational stress in nurses and other healthcare workers: The role of organisational and personal factors. *Journal of Clinical Nursing*, *22*(17–18), 2614–2624. doi:10.1111/jocn.12084

George, D., & Mallery, P. (2019). *IBM SPSS statistics 26 step by step: A simple guide and reference*. Routledge.

Ibrahim, I. R., Ibrahim, M. I., Majeed, I. A., & Alkhafaje, Z. (2021). Assessment of job satisfaction among community pharmacists in Baghdad, Iraq: A cross-sectional study. *Pharmacy Practice*, *19*(1), 2190. doi:10.18549/PharmPract.2021.1.2190

Iheanacho, C. O., & Odili, V. U. (2022). Job satisfaction among pharmacists practicing in Benin City, Nigeria. *Tropical Journal of Pharmaceutical Research*, *20*(8), 1721–1728. doi:10.4314/tjpr.v20i8.25

Ihekoronye, M. R., & Osemene, K. P. (2022). Evaluation of the participation of community pharmacists in primary healthcare services in Nigeria: A mixed-method survey. *International Journal of Health Policy and Management*, *11*(6), 829–839.

Johnston, K., O'Reilly, C. L., Scholz, B., & Mitchell, I. (2022). The experiences of pharmacists during the global COVID-19 pandemic: A thematic analysis using the jobs demands-resources framework. *Research in Social & Administrative Pharmacy*, *18*(9), 3649–3655. doi:10.1016/j.sapharm.2022.03.018

Lai, H.-H. (2011). The influence of compensation system design on employee satisfaction. *African Journal of Business Management*, *5*(26), 10718.

Manan, M. M., Azmi, Y., Lim, Z., Neoh, C. F., Khan, T. M., & Ming, L. C. (2015). Predictors of job satisfaction amongst pharmacists in Malaysian public hospitals and healthcare clinics. *Journal of Pharmacy Practice and Research*, *45*(4), 404–411. doi:10.1002/jppr.1094

Mutschler, C., Bellamy, C., Davidson, L., Lichtenstein, S., & Kidd, S. (2022). Implementation of peer support in mental health services: A systematic review of the literature. *Psychological Services*, *19*(2), 360–374. doi:10.1037/ser0000531

Nagar, K. (2012). Organizational commitment and job satisfaction among teachers during times of burnout. *Vikalpa*, *37*(2), 43–60. doi:10.1177/0256090920120205

Ogaboh, A., Udom, H., & Eke, I. (2020). Why brain drain in the Nigerian health sector. *Asian Journal of Applied Sciences*, *8*, 95–104.

Phua, G. S. Y., Teoh, C. J., Khong, L. B., Baba, B., Lim, C. W., Koh, W. L., Rhazi, N. A. M., & Ayob, N. C. (2017). The satisfaction and perception of intern pharmacists towards their training in government hospitals in the northern region of Malaysia. *Pharmacy Education*, *17*, 15–23.

Singh, T., Kaur, M., Verma, M., & Kumar, R. (2019). Job satisfaction among health care providers: A cross-sectional study in public health facilities of Punjab, India. *Journal of Family Medicine and Primary Care*, *8*(10), 3268–3275. doi:10.4103/jfmpc.jfmpc_600_19

Swamy, D. R., Nanjundeswaraswamy, T., & Rashmi, S. (2015). Quality of work life: Scale development and validation. *International Journal of Caring Sciences*, *8*(2), 281.

Ukeje, I. O., Ndukwe, C., Emma, C., Ogbulu, U., & Onele, J. C. (2020). Public service recruitment practices and implications for sustainable development in Ebonyi State,

Nigeria. *International Journal of Public Administration*, *43*(4), 361–372. doi:10.1080/01900692.2019.1636394

Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology*, *52*(2), 129–148. doi:10.1111/j.2044-8325.1979.tb00448.x