

Assessing Job Satisfaction and Perceived Improvement Measures among Early Career Hospital Pharmacists in Karachi: A Cross-Sectional Study

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Abstract: Background: Hospital pharmacists play a critical role in patient care, medication management, and efficiency of the healthcare system. Inadequate workload management, recognition and monetary remuneration may lead to higher turnover, lower job satisfaction which affects patient care

Objective: The aim of this study was to assess the job satisfaction among early career pharmacist of Karachi Pakistan. Together with the perceived measures needed to be taken in order to improve the job satisfaction.

Materials & Methods: From August 2023 to October 2023, a descriptive cross-sectional study was carried out by distributing a self-administered questionnaire through electronic media channels to pharmacist of different hospital sectors in Karachi. The study was approved from Institutional Bioethics Committee of University of Karachi and assigned the reference number of IBC KU-354/2023. The questionnaire was divided into Professional interaction with healthcare professionals, salary/incentive benefits and professional work environment. A five-point Likert scale, value ranging from 1 (strongly disagree) to 5 (strongly agree), was used to rate the questions. Since all of the questions were positively worded therefore, smaller mean values were considered as lower satisfaction.

Result: A total of 107 pharmacists responded to the questionnaire of which majority were females (82.2%). Overall, two-third of the pharmacist (63%) in Pakistan are dissatisfied. Major area of dissatisfaction was observed due to salary and incentive benefits (79%) received by the pharmacist. An otherwise positive response was observed with pharmacist professional interaction (56%). Pakistani pharmacists were inclined with receiving more trainings for their professional development preceded by more salary benefits.

Conclusion: Statutory bodies should devise a strategy to cope with the dissatisfaction of hospital pharmacists in Pakistan especially related to pharmacist salary and trainings.

Keywords: Hospital Pharmacy, Job Satisfaction, Patient Care, Hospital Management, Pharmacy Management, Healthcare sector.

INTRODUCTION

Pharmacists are crucial components of the healthcare sector. Pharmacists can dispense prescription medications. They also monitor therapy to reduce side effects and reactions. Additionally, they advise healthcare professionals about drugs and ensure medications are used safely [1, 2]. These responsibilities that pharmacists are playing have raised the demand for skilled candidates to fill the post. Between 2014 and 2024, the employment of pharmacists is anticipated to grow by 3%, which is slower than the average for all healthcare jobs [3]. Reducing delayed hiring and skilled pharmacist turnover was one of the top problems in the pharmacy profession, according to the FIP (International Pharmaceutical Federation) Global Pharmacy Workforce Report 2012. Patient safety and the quality of pharmaceutical care services could suffer from a high turnover rate among pharmacists. Pharmacist turnover is rising, causing a big crisis for pharmacies and the healthcare system. This is mainly due to low job satisfaction [4].

Job satisfaction is the degree of favorable conditions that inspires and drives employees to perform better and be more productive [1, 5-7]. It is the expression of people's attitudes and feelings concerning their employment. While dissatisfaction with the job is showed by negative and unfavorable attitudes, job satisfaction is represented in positive and favorable opinions of the work [7, 8].

With varying outcomes, a number of studies have looked at how satisfied pharmacists are with their jobs. On a global scale, a survey conducted in Saudi Arabia revealed that the majority of pharmacists working in various healthcare settings were satisfied with their current positions (39% were very and 25% slightly content). In contrast to the public sector pharmacists in Malaysia, who only reported being satisfied with their current positions 52% of the time, the latest survey in Malaysia indicated that job satisfaction among community pharmacists was high (77%) [9].

Many healthcare workers in Pakistan feel unhappy with their pay and benefits. They also struggle to provide a good standard of living for themselves and their families. They think they have limited possibilities to master cutting-edge technologies, have less chances to enhance their skills and careers, work in unfavor-

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able conditions, experience workplace violence, and are subject to political pressure [10].

Being in the health sector will have a detrimental impact on patients' happiness as well as the health system's outcomes and the workers' performance [11]. Violence, which may be both physical and verbal, and hostility against hospital employees are other issues that have been recorded in Pakistani hospitals. According to research done in Lahore, Pakistan's capital city of Punjab, poor security for healthcare personnel in hospital settings causes worry, mental discomfort, unhappiness, and even the desire to leave the field. As a means of preventing these incidents, it has been suggested that strong management practices, improved senior support, effective teamwork among co-workers, and the availability of better resources [12].

Recognizing the importance of job satisfaction for the performance of health workers, the specific study was carried out to evaluate the general satisfaction of health service providers working in public sector hospitals, highlight various factors that contribute to job satisfaction or dissatisfaction, and suggest recommendations that may improve the current situation and thereby lessen the exodus of trained and skilled professionals from Pakistan [12].

Therefore, it is crucial to assess the degree of job satisfaction among pharmacy experts in order to raise the standard of pharmaceutical care services. The results of the current study will provide an excellent chance for hospital management and other policy makers to take remedial action based on the information provided because there is little research on the degree of job satisfaction of pharmacy professionals in Pakistani Hospital.

The aim of this study was to assess the satisfaction level of pharmacy professionals in Karachi, Pakistan, and to determine what measures act as driving forces for the enhancement of this profession. The study explores the factor in early career pharmacist because they are the most vulnerable to dissatisfaction, turnover, and burnout due to lack of experience, recognition, and professional development opportunities

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted from August 2023 to October 2023 using web-based, self-administered questionnaire. The study was approved from Institutional Bioethics Committee of University of Karachi and assigned the reference number of IBC KU-354/2023. The questionnaire was directed towards early-career pharmacists (having ≤ 5 years' experience) working in a hospital setting to assess their level of job satisfaction. Pharmacists from hospitals of all sectors (Public, Semi-private & Private) were included in the study [13].

Consecutive sampling was applied for data collection. A self-administered structured questionnaire was used to gauge the degree of job satisfaction among pharmacy professionals.

The survey was adopted from earlier similar study question-

naires [14, 15]. The questionnaire included only closed-ended questions. The questionnaire was sub-divided into 3 sections; section A consisted of socio-demographic characteristics of the respondents. Section B-D included items for assessment of job satisfaction which included 23 items; Section B -professional interaction (7-item), Section-C professional work environment (11-item) and Section-D salary & incentive benefits (5-item). The last section included perceived measures to increase job satisfaction among hospital pharmacists. A five-point Likert scale, value ranging from 1 (strongly disagree) to 5 (strongly agree), was used to rate the questions of section B-D. Since all of the questions were positively worded therefore, smaller mean values were considered as lower satisfaction [16].

STATISTICAL EVALUATION

Statistical Package for the Social Sciences (SPSS) Version 26 was used to evaluate the acquired data and ensure its reliability. Due to the categorical nature of the questionnaire, all responses were described as proportions and frequencies. Respondents classed as unsatisfied had an average score below the mean value, while satisfied respondents had an average score above the mean value. Cronbach's alpha was calculated to check reliability of the study. Pearson chi-square and Cramer's V (C.V) were calculated to assess the degree of association of socio-demographic factors with mean score of professional interaction, salary benefit and working environment. A post hoc power analysis for job satisfaction mean score was conducted for power estimation of the study.

RESULT

Socio-Demographics

A total of 107 pharmacists responded to the online questionnaire from different hospital sector. The post hoc power estimation, based on the observed mean value (3.16 ± 1.007) from the questionnaire responses, the analysis assumed a sample size of 107 participants and an alpha level of 0.05. The results indicated that the study had 100% power to detect a significant effect for the primary outcome measure.

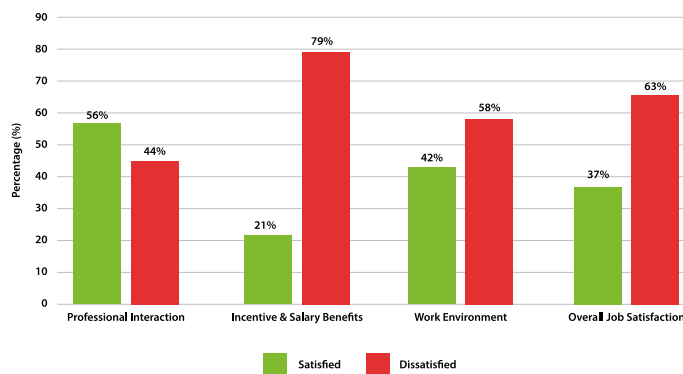
Majority of the respondents were female (82.2%) belonging to the age group 23-30 years (92.5%). Mostly early career pharmacists participated in this survey having less than 1 year of experience (35.5%) or 1-3 years of experience as hospital pharmacist (45.8%) and therefore have the basic education of PharmD (92.5%) while some had postgraduate education (Table 1). Of the total participants, majority worked in private sector hospitals (65.4%) that belong to more than 300 bedded count hospital (32%). About 43.9% participants earned between 25,000-40,000 PKR (43.9%). The working department distribution is mentioned in Table 1. Cronbach alpha of Professional interaction, salary & incentive benefits and professional working environment sections was calculated as 0.942, 0.943 and 0.843, which are acceptable to show reliability of the questionnaire respectively [17].

Table 1. Socio-demographic Factors of Survey Respondents¹.

Variables		Frequency (%)
Gender	Male	19 (17.8%)
	Female	88 (82.2%)
Age	23-30	99 (92.5%)
	31-40	8 (7.5%)
Marital Status	Single	82 (76.6%)
	Married	25 (23.4%)
Hospital Sector	Private	70 (65.4%)
	Semi-Private	25 (23.4%)
	Public	12 (11.2%)
Hospital Bed count	<100 beds	28 (26.2%)
	100-200 beds	29 (27.1%)
	201-300 beds	18 (16.8%)
	>301 beds	32 (29.9%)
Years of Experience as Hospital Pharmacist	<1 years	38 (35.5%)
	1-3 years	49 (45.8%)
	4-5 years	19 (17.8%)
	>5 years	1 (0.9%)
Monthly Income	<25,000 PKR	20 (18.7%)
	25,000-40,000 PKR	47 (43.9%)
	41,000-60,000 PKR	38 (35.5%)
	>61,000 PKR	2 (1.9%)
Working Unit	Administration	3 (2.8%)
	Emergency	25 (23.4%)
	Drug Information	3 (2.8%)
	In-patient	36 (33.6%)
	Oncology & Clean-room pharmacy	13 (12.1%)
	Out-Patient	25 (23.4%)
	Procurement	2 (1.9%)
Highest Education	PharmD	99 (92.5%)
	PharmD + MS/ MPhil	6 (5.6%)
	PharmD + MBA	2 (1.9%)

Job Satisfaction among Pharmacy Professionals

The key areas of job satisfaction for pharmacy professionals were determined to be contentment with the working environment, professional interaction & salary benefits. Approximately two-third of the pharmacists (63%) had low work satisfaction when the three areas are considered. Individually, majority of the participants were dissatisfied with the salary and incentive benefits which they are provided while a similar satisfaction was observed between their professional interaction and working environment (Fig. 1).

**Fig. (1).** Overall Job Satisfaction of Hospital Pharmacists.

When the degree of satisfaction for each category was taken into account, over three-fifths (44%) of the pharmacy professionals expressed dissatisfaction with their workplace interaction. A little over 30% of respondents said their workload was too much, and 51.4% said there wasn't enough staffing, which increased workload. More than half of the respondents expressed dissatisfaction with the organizations' advancements in career possibilities. On the other side, 37% of respondents were satisfied with having the opportunity to select the preferred working manner, and nearly 38% expressed pride in their job as hospital pharmacists (Table 2).

Considering professional interaction, overall, 47% respondents were satisfied in job relation they have with other health care professionals. 85% of the respondents expressed dissatisfaction with reward and recognition-related issues. More than half of the respondents (79%) expressed low levels of satisfaction with their pay. Only 54.4% of respondents said they were unhappy with the compensation they received for their efforts. On the other hand, more than half of respondents said that they would not be interested in holding the same job in the future.

More incentives (57.01%), higher compensation benefits (66.36%), better facility infrastructure (41.12%), more knowledge or updates or training (74.77%), more training or updates (74.77%), and more supervisor assistance (74.12) were all cited by participants in regard to the professionals' opinions on the measure necessary to increase job satisfaction (48.6%) (Table 3).

The results of chi-square test for association and Cramer's V for association of mean response (Professional interaction, Professional working environment and salary & incentives) with socio-demographic variable are calculated in Table 4. With respect to professional interaction of pharmacist with other healthcare professionals, A strong association and significant association was observed in Gender (C.V=0.718, $p<0.001$), Age (C.V=0.661, $p=0.002$), Monthly Income (C.V=0.573, $p=0.003$), working area (C.V=0.554, $p=0.001$) and highest education received (C.V=0.633, $p=0.001$). The salary benefit satisfaction was strongly associated with Gender (C. V=0.544, $p=0.011$), Marital status (CV=0.52, $p=0.003$), Monthly income (CV=0.534, $p<0.001$) and working unit (CV=0.533, $p<0.001$). Working environment had a strong and significant correlation with all socio-demographic factors except with highest education (CV=0.57, $p=0.106$).

Table 2. Job Satisfaction Responses of Hospital Pharmacists of Karachi.

Variables		Responses N (%)					p-Value
		Strongly Disagree	Dis-agree	Neutral	Agree	Strongly Agree	
Professional Interaction	On professional matters related to medication, doctors often consult me	15 (14%)	17 (15.9%)	34 (31.8%)	33 (30.8%)	8 (7.5%)	<0.001
	Physicians are obliged when I communicate professional matters with them.	13 (12.1%)	16 (15%)	35 (32.7%)	36 (33.6%)	7 (6.5%)	<0.001
	I am treated with respect by my pharmacy colleagues	12 (11.2%)	10 (9.3%)	23 (21.5%)	49 (45.8%)	13 (12.1%)	<0.001
	My fellow employees are friendly	14 (13.1%)	6 (5.6%)	25 (23.4%)	48 (44.9%)	14 (13.1%)	<0.001
	Paramedical staff cooperate in terms of professional discussions	13 (12.1%)	20 (18.7%)	27 (25.2%)	39 (36.4%)	8 (7.5%)	<0.001
	I frequently get requests from nurses to consult with me about work-related issues.	19 (17.8%)	15 (14%)	27 (25.2%)	39 (36.4%)	7 (6.5%)	<0.001
	I am satisfied with the working connections with other employees	13 (12.1%)	18 (16.8%)	25 (23.4%)	41 (38.3%)	10 (9.3%)	<0.001
Professional Work Environment	There is good opportunity for promotion in Hospital Pharmacy	23 (21.5%)	34 (31.8%)	29 (27.1%)	18 (16.8%)	3 (2.8%)	<0.001
	I feel honored to be employed as a hospital pharmacist	12 (11.2%)	16 (15%)	38 (35.5%)	34 (31.8%)	7 (6.5%)	<0.001
	Rules and regulation are equally applicable to all healthcare professionals	17 (15.9%)	23 (21.5%)	30 (28%)	30 (28%)	7 (6.5%)	0.001
	Pharmacy Employee complaints are taken seriously by the supervisor	19 (17.8%)	21 (19.6%)	26 (24.3)	37 (34.6%)	4 (3.7%)	<0.001
	Pharmacists have sufficient amount of freedom to manage their work	21 (19.6%)	29 (27.1%)	17 (15.9%)	39 (36.4%)	1 (0.9%)	<0.001
	There is enough staffing in place to handle the workload at the pharmacy.	28 (26.2%)	27 (25.2%)	21 (19.6%)	26 (24.3%)	5 (4.7%)	0.002
	My supervisor is qualified to give the right advice.	17 (15.9%)	15 (14%)	31 (29%)	28 (26.2%)	16 (15%)	0.032
	Work schedules take into account the demands of each individual employee.	16 (15%)	26 (24.3%)	34 (31.8%)	27 (25.2%)	4 (3.7%)	<0.001
	The hospital management respects and treats pharmacy professionals similar to other health professionals in the hospital	24 (22.4%)	21 (19.6%)	29 (27.1%)	29 (27.1%)	4 (3.7%)	<0.001
	Workload assigned to be is comfortably managed	18 (16.8%)	22 (20.6%)	31 (29%)	33 (30.8%)	3 (2.8%)	<0.001
	My manager inspires me to learn new skills and advance my career.	17 (15.9%)	16 (15%)	27 (25.2%)	34 (31.8%)	13 (12.1%)	0.006
Salary and Incentive Benefits	The financial compensation I receive for my employment is reasonable.	27 (25.2%)	31 (29%)	31 (29%)	18 (16.8%)	0 (0.0%)	0.239
	I get paid fairly for the services I provide.	32 (29.9%)	40 (37.4%)	23 (21.5%)	12 (11.2%)	0 (0.0%)	0.001
	I receive compensation adequate for the work I do.	27 (25.2%)	45 (42.1%)	26 (24.3%)	7 (6.5%)	2 (1.9%)	<0.001
	My talents are fully utilized on my job	21 (19.6%)	27 (25.2%)	25 (23.4%)	31 (29%)	3 (2.8%)	<0.001
	I am willing to continue the current job in future too	25 (23.4%)	25 (23.4%)	35 (23.7%)	19 (17.8%)	3 (2.8%)	<0.001

Table 3. Perceived Measured of Hospital Pharmacist to Increase job Satisfaction.

Measures to Increase Job Satisfaction	Frequency (%)
Better facility infrastructure	44 (41.1%)
Better salary benefits	81 (75.7%)
Less workload	29 (27.1%)
More autonomy or independence	40 (37.4%)
More incentives for professionals	72 (67.2%)
More support from supervisor	52 (48.6%)
More knowledge or updates or training	80 (74.8%)

Table 4. Association of Survey Sections with Sociodemographic Factors via Pearson Chi-Square and Cramer's V Value.

Variables		Professional Interaction Satisfaction			Salary Benefit Satisfaction			Work Environment Satisfaction		
		χ^2	p-value	Cram-er's' V	χ^2	p-value	Cram-er's' V	χ^2	p-value	Cram-er's' V
Gender	Male	55.228	<0.001	0.718	31.68	0.011	0.544	70.741	<0.001	0.81
	Female									
Age	23-30	46.767	0.002	0.661	16.603	0.412	0.394	58.814	0.001	0.74
	31-40									
Marital Status	Single	24.4	0.382	0.478	25.426	0.003	0.575	63.637	<0.001	0.77
	Married									
Hospital Sector	Private	57.777	0.114	0.52	57.91	0.003	0.52	93.371	0.004	0.66
	Semi-Private									
	Public									
Monthly Income	<25,000 PKR	105.216	0.003	0.573	911.66	<0.001	0.534	148.993	<0.001	0.68
	25,000-40,000 PKR									
	41,000-60,000 PKR									
	>61,000 PKR									
Experience	<1 years	80.054	0.171	0.499	69.567	0.023	0.466	127.48	0.006	0.63
	1-3 Years									
	4-5Years									
	>5 Years									
Working Unit	Administration	196.885	0.001	0.554	182.621	<0.001	0.533	304.33	<0.001	0.68
	Emergency									
	Drug Information									
	In-patient									
	Oncology & Clean-room pharmacy									
	Out-Patient									
	Procurement									
Highest Educa-tion	PharmD	128.695	0.001	0.633	48.809	0.44	0.39	107.097	0.106	0.57
	MS/MPhil									
	MBA									

DISCUSSION

Employee job satisfaction is crucial to a healthcare organization because of the favourable effects it has on worker relations, productivity, physical and mental health, overall life satisfaction and ultimately on patient care. Our study was aimed to assess the level of job satisfaction of hospitals pharmacists of Karachi and the perceived measures needed to be taken for the betterment of hospital pharmacists' career.

Job Satisfaction in Neighbouring Asian Countries

More than half of the hospital pharmacists (63%) were dissatisfied with their job as hospital pharmacist. This findings variate to some Asian countries regarding job satisfaction of hospital pharmacists such as in Saudi Arabia (>50%), India (82.5%), Bangladesh (56.7%) [20] and Malaysia (52%) were dissatisfied with their job as a hospital pharmacists. Pakistan based hospital pharmacist had marginal better satisfaction compared to India while fallen behind majority of the Asian countries [18-21]. Mostly early career pharmacist in the age group of 22-30 years participated in our study and therefore the dissatisfaction represents the early career pharmacists only having experience of ≤ 5 years. When compared to a study by Nguyen-Thi *et al.* clinical pharmacists generally are dissatisfied with their job. This may be due to lesser salary authority, autonomy and occupational prestige among young pharmacists when compared to senior pharmacists [22]. ASHP states that pharmacists in hospitals boost medication use by monitoring patients, providing education, and leading safety initiatives [23]. In a state where there is an acute shortage of hospital pharmacists [24], lowered job satisfaction may cause increased turnover of talented & skilful pharmacists.

Professional Interaction Satisfaction

In many countries with integrated healthcare, doctors value pharmacists' expertise. This helps build strong working relationships. Interprofessional interaction between physician-pharmacist and nurses is crucial for patient care [25]. A significant reduction in drug related problems occurs when clinical pharmacist and physician are involved in shared decision making [26]. The study population of Karachi reported that significant proportion of pharmacist are involved in direct consultation with physicians and most pharmacists feel that physicians respect and value their professional communications. Comparatively the most positive interaction was observed between pharmacist-pharmacist followed by pharmacist-nurses and pharmacist-physician. A study by Wakob *et al.* interprofessional medication review between pharmacist and nurses contributed in improving quality of drug management practices which resulted in improved patient care [27]. According to Hayat *et al.* despite what is believed to be an important role for pharmacists in enhancing patient pharmaceutical care, most physicians report little to no engagement with pharmacists [28].

Work Environment Satisfaction

Almost half of pharmacists (42%) feel they aren't respected as much as nurses and doctors. Internationally, hospital pharmacist is perceived as a competent, supportive and valuable asset by other healthcare professionals as being an integral part of patient care [29, 30]. Initiating recognition programs like pharmacist professional advancement and recognition program (PARP) which may increase recognition and respect for pharmacist ultimately improving patient care. PARP is a framework that rewards pharmacists for their performance, experience, and training. This system boosts job satisfaction and supports professional growth [31].

Salary & Incentive Satisfaction

Overall, 79% pharmacists were dissatisfied with the salary and incentive they receive for their efforts as a hospital pharmacist which is strongly associated with their lesser monthly salary. According to a crowd-based database Number [32], the cost of living in Karachi is PKR 68,688/- without rent for a single person. 98.1% pharmacist who responded to this survey are earning less than PKR 60,000/-. Mostly pharmacists perceived that the provided salary scale is not in justified by the amount of work they perform. According to American Psychological Association, low salary and increased workload has been associated with employee burnout [33] and pharmacist burnout may pose a risk to patient care.

Areas of Improvement

The area of improvement with respect to hospital pharmacist work environment was observed to be adequate staffing. When assessed regarding the pharmacy staffing a mortality rates (due to pharmacist intervention) were suggestive that pharmacy staffing has been linked to decreased mortality rates [34]. The second major area of concern regarding pharmacist job satisfaction was related to the opportunities to grow. Combined with lower salary benefits can summed to increased long term job dissatisfaction which ultimately would lead to risk in lower quality of patient care [35].

The most common measure to increase job satisfaction was observed to be better salary benefits (75.7%), followed by more knowledge, updates and training related to hospital pharmacist (74.8%). This shows the positive attitude of the young pharmacist in excelling in their role as hospital pharmacist if compensated well in their salary.

LIMITATIONS

There are some limitations of this study. Firstly, the data only represents the hospital pharmacists of Karachi. Secondly, the study only portrays early career pharmacist with their perception related to job satisfaction only, job stress was not recorded in this study. Lastly, there are pharmacist from Joint Commission International Accredited hospital in Karachi and hospital pharmacy

practice are different compared to non-JCI accredited hospital. The cross-sectional nature of the study may cause response bias in the study variables.

CONCLUSION

Our study aimed to assess the level of job satisfaction and perceived measures to increase job satisfaction among hospital pharmacists of Karachi. Majority of pharmacist are dissatisfied with their role as a hospital pharmacist in all three hospital sectors of Pakistan. Lower salary benefits, Increased workload, staffing problems and pharmacist-physician interaction contributed to the major aspects of the dissatisfaction. If the policy makers act on these measures, pharmacy profession may be at par with international standards throughout Pakistan.

AUTHORS' CONTRIBUTION

Sarmad Iqbal: Conceptualization, Study design, Methodology, Data analysis and interpretation, Writing draft.

Soha Khan: Conceptualization, Study design, Writing draft.

Sana Sarfraz: Critical review and revision the manuscript, Final approval, final proof to be published.

Fizza Faisal: Methodology, Data analysis and interpretation, Writing draft.

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Declared none.

ETHICAL DECLARATIONS

Data Availability Statement

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

Ethical Approval

The study received approval from the Institutional Bioethics Committee of the University of Karachi with reference number IBC KU-354/2023.

Consent to Participate

Informed consented.

Consent for Publication

Consented.

Conflict of Interest

Declared none.

Competing Interest/Funding

Declared none.

Use of AI-Assisted Technologies

The authors declare that no generative artificial intelligence (AI) or AI-assisted technologies were utilized in the writing of this manuscript, in the creation of images/graphics/tables/captions, or in any other aspect of its preparation.

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