

Academic and Job Satisfaction among Physiotherapy Graduates of Kathmandu University School of Medical Sciences (KUSMS): A cross-sectional study

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ABSTRACT

Background

Background: With rising non-communicable diseases and Years Lived with Disability, there's a growing need for skilled and satisfied physiotherapists. Quality of education from institutions determines the academic satisfaction of graduate physiotherapists which in turn influences job satisfaction. Currently, many institutes have started undergraduate physiotherapy programs, with Kathmandu University School of Medical Sciences being the pioneer institute. Hence, it is an appropriate time to provide information related to academic and job satisfaction among physiotherapy graduates to guide these novice institutions.

Objective

To determine the status of academic and job satisfaction in physiotherapy graduates of KUSMS and identify influencing factors.

Method

A cross-sectional study was conducted among graduates using Dundee Ready Educational Environment Measure (DREEM)-12 and Job Satisfaction Survey (JSS). The questionnaire was made available online using goggle form and distributed via social media and email, which was scored based on Likert scale. Data were analyzed using SPSS version 26.

Result

In our study, 107 Physiotherapy graduates were included where 86% of them were underage group of 20-30 years. Most of the graduates were female and unmarried. Most graduates were working as physiotherapists (78.5%). Mean total Dundee Ready Educational Environment Measure and Job Satisfaction Survey were 34.3 ± 6 and 139.56 ± 2 respectively.

Conclusion

Graduates reported satisfactory educational environment, although support system emerged as an area requiring improvement. Job satisfaction was moderate overall, with higher satisfaction related to nature of work, coworkers, supervision, communication, and lower satisfaction regarding pay, promotion, fringe benefits, contingent rewards, and operating conditions.

KEY WORDS

Academic, Graduates, Physiotherapy, Satisfaction

INTRODUCTION

Physiotherapists play a vital role in enhancing health-related quality of life by enhancing movement and functional ability for individuals with acute and chronic diseases.^{1,2} According to the World Health Organization (WHO), approximately 2.4 billion people worldwide could benefit from rehabilitation during the course of their illness or injury, highlighting the growing need for rehabilitation professionals.³ Furthermore, 74% of the global burden of disability linked to medical conditions where physiotherapy proves beneficial, the demand for effective rehabilitation is evident.⁴ The surge in non-communicable diseases (NCDs), causing 77% of deaths in low- and middle- income countries and 66% of mortality in Nepal, emphasizes the urgent need for cost-effective rehabilitation.^{5,6}

Success of physiotherapy interventions hinges on the quality of education provided to practitioners. Academic satisfaction, gauged through tools like Dundee Ready Educational Environment Measure (DREEM), is crucial in assessing strengths and weaknesses of educational institutions.⁷ Alhassan et al. reported that nursing students' academic satisfaction and perception of clinical learning environments were significantly influenced by the competence of clinical supervisors, which in turn affected their preparedness for clinical practice.⁸ Among health professionals, satisfaction with academics considerably enhance job satisfaction.⁹

Physiotherapists' job satisfaction significantly influences their performance and rehabilitation effectiveness.¹⁰ High job satisfaction positively affects health, performance, retention, and patient satisfaction. Conversely, low job satisfaction causes turnover, fatigue, patient dissatisfaction, and reduced overall efficiency.¹¹⁻¹³ Job Satisfaction Survey (JSS) is a widely-used measure for job satisfaction.¹⁴

In 2010, Bachelor in Physiotherapy (BPT) program began at Kathmandu University School of Medical Sciences (KUSMS) in Nepal, marking the initiation of academic growth in physiotherapy profession.^{15,16} Presently, multiple institutions across the country offer BPT program, with an annual enrollment of 150 students.^{17,18}

Despite physiotherapy education growth in Nepal, empirical data on academic and job satisfaction among graduates is lacking. This study aims to address this gap by examining the satisfaction status of graduates from KUSMS to guide newer institutions.

METHODS

This was a cross-sectional study conducted to find out academic and job satisfaction of physiotherapy graduates of KUSMS. It was commenced after getting approval from institutional review Committee of KUSMS (Ref no: 202/2021). All the physiotherapy graduates of KUSMS from inception until 2020, who had given consent were included

for academic satisfaction and the physiotherapy graduates of KUSMS working in Nepal and/or abroad, with minimum six months of working experience were included for job satisfaction in this study. Sample size was calculated as 107 (assuming 10% non-respondent rate), using the following formula:

For infinite population: $n = z^2 * p (1-p) / d^2$

For finite population: $n' = n / [1 + (n-1)/N]$

Where, Z= 1.96 (confidence limit statistics)

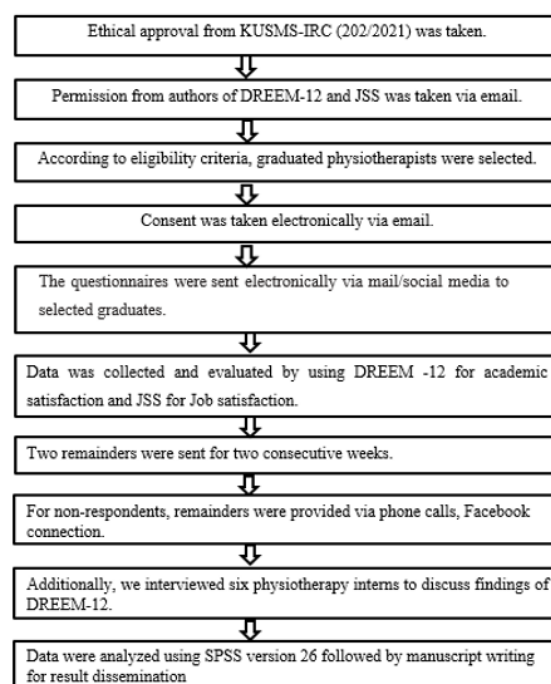
P (prevalence)= 0.5 (50%)

N (total population in my study) = 130

d (precision)= 0.05

Therefore, Sample size= 107 (assuming 10% non-respondent rate)

Eligible graduated physiotherapists were recruited and provided electronic consent. Data were collected through online questionnaires using the DREEM-12 and JSS. Two weekly reminders and additional follow-up for non-respondents were conducted. Six physiotherapy interns were also interviewed to explore DREEM-12 findings. The collected data were subsequently analyzed, and the results were prepared for dissemination. Procedure



Flow diagram 1. Participants' flow diagram showing data collection procedure.

Data was collected using two questionnaires DREEM-12 and JSS. DREEM-12 was used for measuring academic satisfaction. It consists of five sub-scales with 12 items in total. It is scored on four-point Likert scale. Its sub-scales measures students' perception of learning, students' perception of teachers, students' academic self-perception, students' perception of atmosphere and

lastly about students' social self-perception. The Cronbach alpha of DREEM-12 was 0.83.¹⁹ A study conducted among dental students comparing DREEM and DREEM-12 showed that Cronbach's alpha was 0.835.²⁰ Similarly, JSS was used for measuring job satisfaction. It consists of nine sub-scales with 36 items in total. It is scored on the six-point Likert scale. Its sub-scales consist of questions related to pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, co-workers, nature of work and lastly communication. Its Cronbach alpha and convergent validity were 0.78 and 0.76 respectively.¹⁴

Variables were assigned for all the demographic components and DREEM-12 and JSS items. The collected data were arranged, entered, and tabulated in Statistical Package for Social Sciences (SPSS) version 26 to analyze the findings of the study. Statistical analysis was done using the software, SPSS version 26. Demographic characteristics were analyzed using descriptive statistics; baseline characteristics (frequency, mean and standard deviation) of the study population were analyzed. We calculated chi-square to identify associated factors with academic and job satisfaction. Tables and bar graphs were created to represent numerical data.

RESULTS

A total of 107 participants were included in this study. The demographic details (Table 1) showed that 86% of the graduates fall under the mean age group of 20-30 years. Most (71%) of graduates were female and more than half were unmarried. Most graduates' income falls under NPR 15000-30000 (114-227 USD) per month with a working duration of six to eight hours per day. More than one-third of the participants had working experience of one to three years. All 107 physiotherapy graduates responded to the DREEM-12 questionnaire for academic satisfaction, whereas among them 14 were excluded for JSS for job satisfaction because they were enrolled in higher studies at the time of data collection.

Employment as physiotherapist

The majority (78.5%) of graduates were employed as physiotherapists, while 13.1% were enrolled in higher studies, 4.7% were enrolled in another profession and 3.7% were previously employed as physiotherapists but were not currently enrolled in any profession as shown in figure 1.

DREEM for academic satisfaction

The overall DREEM score of 34.3/48 indicates the graduates were more positive than negative towards the educational environment. Table 2 presents the DREEM domains and overall scores. The highest score was in academic self-perception (9.1/12), which indicates the feelings of positive aspects towards academic. The second highest score was in perception of teachers which indicates teachers were moving in the right direction in providing knowledge and

Table 1. Demographic characteristics of respondents (N= 107)

Variables	Frequency (n)	Percentage (%)
Age		
20-29 years	92	86
30 and above	15	14
Gender		
Male	30	28
Female	76	71
Others	1	0.9
Marital status		
Married	31	29
Unmarried	76	71
Income per month		
< 15000	3	2.8
15000 - 30000	39	36.4
30000 - 60000	28	26.3
> 60000	23	21.5
Working Duration (per day in hours)		
< 6	6	5.6
6 - 8	75	70.1
9 - 12	12	11.3
Working Experience after graduation		
6 months-1 year	24	22.4
1 - 3 years	39	36.4
3 - 5 years	18	16.8
> 5 years	12	11.2

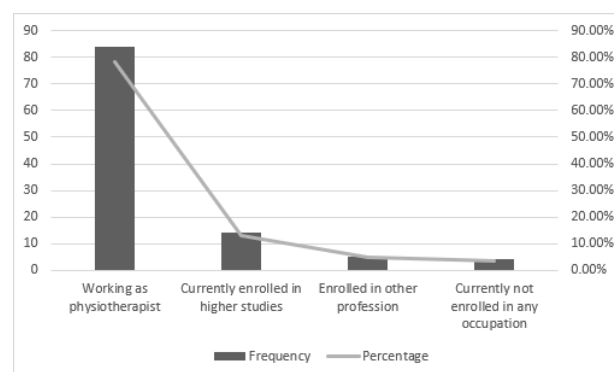


Figure 1. Participants' flow diagram showing data collection procedure.

skills. The lowest score was in social self-perception which indicates that graduates need to work on their social self-management skills.

Table 3 depicts the individual items of DREEM. Most of the items had a mean score between 2 and 3. No items had real positive points. Mean score of item no. 11 was < 2 which indicates the problem areas that need to be focused on.

Note: Items with a mean score of 3.5 or over were taken as real positive points. Items with a mean between 2 and 3 were considered aspects of the academic that could be enhanced, while a mean of 2 or less were taken as problem

Table 2. Domains of DREEM

Domain of DREEM	Interpretation	DREEM score	Frequency	Percentage (%)	Mean± SD
Students' Perception of Learning (SPL) (Maximum score =8; Number of questions=2)	Very poor	0-2	2	1.9	6.39 ± 1.41
	Teaching is viewed as negatively	3-4	9	8.4	
	A more positive perception	5-6	47	43.9	
	Teaching highly regarded	7-8	49	45.8	
Students' Perception of teachers (SPT) (Maximum score=12; Number of questions=3)	Abysmal (extremely bad)	0-3	0	0	8.78 ± 1.79
	In need of some training	4-6	12	11.2	
	Moving in right direction	7-9	63	58.9	
	Model teachers	10-12	32	29.9	
Students' Academic self-perception (SASP) (Maximum score=12; Number of questions=3)	Feeling of total failure	0-3	0	0	9.19 ± 1.67
	Many negative aspects	4-6	5	4.7	
	Feeling more on the positive aspects	7-9	61	57	
	Confident	10-12	41	38.3	
Students' Perception of atmosphere (SPA) (Maximum score=8; Number of questions = 2)	A terrible environment	0-2	2	1.9	5.58 ± 1.24
	Many issues which need change	3-4	16	15	
	More positive attitudes	5-6	70	65.4	
	Good feeling overall	7-8	19	17.8	
	Miserable	0-2	11	10.3	
Students' Social self-perception (SSSP) (Maximum score =8; Number of questions= 2)	Not a nice place	3-4	47	43.9	4.39 ± 1.63
	Not too bad	5-6	36	33.6	
	Very good socially	7-8	13	12.1	
Total DREEM score = 48					34.3±6.08

Table 3. DREEM Items

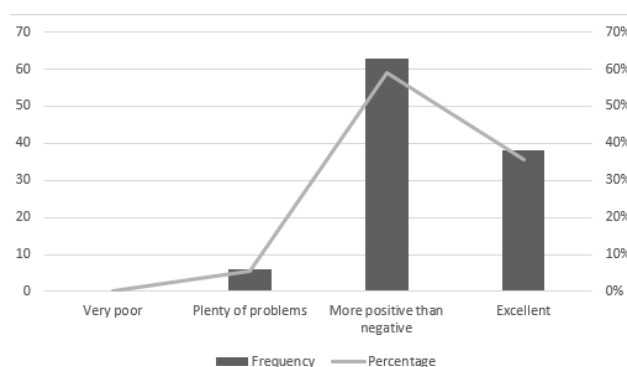
DREEM items	Mean ± SD
1.The teaching encourages me to be an active learner.	3.21 ± 0.74
2.The teaching help me to develop my confidence.	3.18 ± 0.79
3.The course organizers are knowledgeable.	3.21 ± 0.62
4.The course organizers give clear examples.	2.89 ± 0.744
5.The course organizers have good communication skill with students.	2.68 ± 0.83
6.I feel I am being well prepared for my profession.	3.04 ± 0.69
7.My problem-solving skills are being well developed here.	2.95 ± 0.78
8.Much of what I have learnt seems relevant to a career in healthcare.	3.20 ± 0.62
9.I am able to concentrate well.	2.78 ± 0.61
10.The atmosphere motivates me a learner.	2.80 ± 0.82
11.There is good support system for students who get stressed.	1.66 ± 0.99
12.My social life is good.	2.73 ± 0.92

areas in the learning environment.

Among Physiotherapy graduates of KUSMS, 5.6% reported plenty of problems with the educational environment, 58.9% were more positive than negative regarding KUSMS academic environment and 35.5% reported excellent (Fig. 2).

Job satisfaction Survey for Job satisfaction

Table 4 shows that the overall score of JSS was 139±25.7

**Figure 2. Overall, DREEM interpretation (N=107)**

which indicates ambivalent. Among the nine job satisfaction domains, the highest was observed in nature of work (92.5%), followed by coworkers (67.3%), supervision (63.4%) and communication (58%). Most dissatisfaction was towards pay (45.2%), fringe benefits (39.8%), promotion (37.6%), contingent rewards (29%) and operating conditions (29%).

Notes:

Each domain consists of four questions: Maximum score =24

Sub-domain interpretation: Satisfied ≥ 16, Ambivalent=13-15, Dissatisfied = 4-12

More than one third of physiotherapy graduates were satisfied with their job and 11.2% were dissatisfied with their job, and 38.3% were ambivalent (Fig. 3).

Association of DREEM with age, gender, and marital status

The mean DREEM score in males was slightly higher than in females. Similarly, the mean score in unmarried was slightly lower than in married individuals. Association between DREEM with age, gender and marital status was not statistically significant (Table 5).

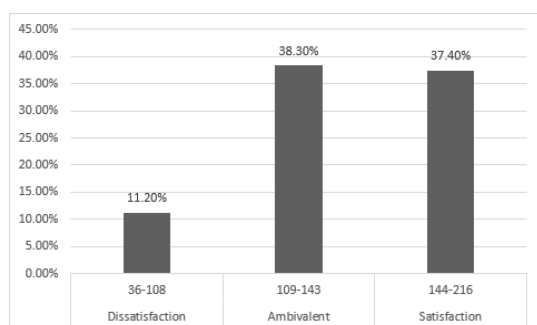


Figure 3. Interpretation of JSS (n = 93)

Table 4. Domains of JSS

Domains	Interpretation	Frequency (n)	Percentage (%)	Mean $\pm$ SD
Pay	Dissatisfied	42	45.2%	12.58 $\pm$ 4.66
	Ambivalent	25	26.9%	
	Satisfied	26	28%	
Promotion	Dissatisfied	35	37.6%	13.37 $\pm$ 4.58
	Ambivalent	37	39.8%	
	Satisfied	21	22.6%	
Supervision	Dissatisfied	8	8.6%	17.38 $\pm$ 4.27
	Ambivalent	26	28%	
	Satisfied	59	63.4%	
Fringe	Dissatisfied	37	39.8%	13.77 $\pm$ 4.76
	Ambivalent	23	24.7%	
	Satisfied	33	35.5%	
Contingent rewards	Dissatisfied	27	29%	14.15 $\pm$ 3.64
	Ambivalent	37	39.8%	
	Satisfied	29	31.2%	
Operating Conditions	Dissatisfied	27	29%	13.90 $\pm$ 2.49
	Ambivalent	45	48.4%	
	Satisfied	21	22.6%	
Coworkers	Dissatisfied	7	6.5%	18.08 $\pm$ 3.51
	Ambivalent	14	13.1%	
	Satisfied	72	67.3%	
Communication	Dissatisfied	14	15.1%	19.67 $\pm$ 3.24
	Ambivalent	25	26.9%	
	Satisfied	54	58.1%	
Nature of work	Dissatisfied	2	2.2%	16.67 $\pm$ 4.64
	Ambivalent	5	5.4%	
	Satisfied	26	92.5%	
Total JSS score				139.56 $\pm$ 25.72

Table 5. Association between DREEM and age, gender, marital status

Variables	Chi-square statistic (χ^2)	Degree of freedom	P-value
Age	25.83	34	0.84
Gender	3.27	4	0.51
Marital Status	3.29	2	0.19

Association of JSS with age, gender, marital status, income, working duration and working experience

The results (Table 6) suggest that there is no significant difference in JSS scores between males and females, or between unmarried and married individuals. Association between JSS with age, working duration, working experience, and operating conditions was not statistically significant ($p > 0.05$). However, there is a significant association between JSS and income, pay, promotion, supervision, fringe benefits, contingent rewards, coworkers, nature of work and communication. P value between DREEM level and JSS level > 0.05 , which is not statistically significant. Hence, there is no association between DREEM level and JSS level.

Feedback from Interns

- The learning environment of KUSMS is positive.
- The faculties are knowledgeable and approachable.
- Clinical placements are well-structured and provide them with ample opportunities to learn and develop their skills.
- Self-directed and active learning helps them to boost their confidence.
- Overall, the interns felt that KUSMS is an excellent place to learn and develop their skills as physiotherapists.

Table 6. Association between JSS and age, gender, marital status, income, working duration, working experience, and DREEM level

Variables	Chi-square statistics (χ^2)	Degree of freedom	P-value
Age	31.41	30	0.39
Gender	2.91	4	0.57
Marital status	0.34	2	0.84
Income	11.50	6	0.07
Working duration	4.37	4	0.31
Working experience	2.15	6	0.90
DREAM level	7.57	6	0.10

DISCUSSIONS

This is the first study to evaluate academic and job satisfaction among physiotherapy graduates in Nepal. The findings showed that the academic satisfaction of the graduates was 'more positive than negative' as interpreted by DREEM score. Job satisfaction was moderate, indicating that although graduates generally value their profession, important workplace challenges remain.

The demographic findings revealed that most of the graduates (71%) were female similar to the global data from World Physiotherapy (WP) where 62% of the practicing physiotherapists were reported to be female.²¹ In addition, most graduates (86%) were below 30 years and unmarried similar to the Nepalese physiotherapy workforce data beholding the fact that Nepal (KUSMS) produced its first graduates merely a decade earlier.²²

The result indicated that most graduates were employed as physiotherapists (78.5%), with a small percentage pursuing another profession (4.7%) or higher education (13.1%). Furthermore, 3.7% of them were unemployed. Approximately 93% of graduates in our study were satisfied with the nature of the work that they carry which might be the reason for majority of graduates retaining physiotherapy profession. Our finding is contrary to the findings of attrition survey in New Zealand where they reported that 50% graduates were working in non-physiotherapy job and 19% were likely to pursue different professions.²³ Several other studies identified factors responsible for work attrition including stress, lack of mentorship, poor benefits and low pay, management issues, shortage of working instruments, long working hours and challenges with teamwork.^{9,22} The retention of physiotherapy profession by approximately four-fifths of the graduates is good news for a low-middle income country like Nepal where there is a tremendous lack of healthcare workforce with high prevalence of NCD.²⁴

Academic Satisfaction

The mean total DREEM score as well as subscale scores of graduates, showed a 'more positive than negative' view of the learning environment. These findings coincide with studies conducted among physiotherapy students in India, Malaysia, Nigeria, and Sweden.²⁵⁻²⁸ Edgren et al. stated that the item-wise analysis is required since the findings from overall DREEM as well as subscales scores may mask the presence of explicit educational problems.²⁹ According to McAleer and Roff, items scoring more than 3.5 are the excellent areas of educational environment.³⁰ However, in our study none of the item scored more than 3.5, indicating areas of improvement which is consistent with the findings of other studies.³¹ Based on the individual item scores, we found an item 'support system' as a problematic area that needs proper attention. This study found that there is no significant difference in the perceptions of educational environment between male and female, or between married and unmarried in contrast to study conducted in India and Malaysia.^{25,26} This also indicates that the educational environment at KUSMS is equally friendly across genders.

Learning was perceived as 'positive' by graduates. This might be the result of active and self-directed learning that boosts confidence among graduates which was supported by the viewpoint of interns.³² The mean score of all the items in the perception of learning domain was found to be more than 3 which is higher as compared to study

conducted in Chitwan Medical college (CMC) in Nepal.³³ Physiotherapy students get an opportunity to learn in a small group at KUSMS during lecture hours and clinical education in contrast to MBBS course at CMC which might be the reason for the same.³³

Regarding the students' perception of teachers, graduates stated that 'Teachers were moving in the right direction'. This is similar to the studies conducted among nursing graduates in Nepal and graduates of faculty of medicine in Kuwait.^{34,35} 'Course organizers give clear examples' and 'Course organizers have good communication skill with students' were two items of this domain that could be enhanced. Necessary measures such as mutual respect and proper dignity between teachers and graduates should be maintained to enhance students' perception towards teachers.³²

The graduates' self-perception towards their academic activities was 'more positive', consistent with the findings of studies carried out among physiotherapy students in India, Nigeria, and Rwanda.^{27,32,36} The lowest score was on item 7 (problem solving skills), which might be improved by teachers facilitating the acquisition of appropriate attitudes and skills.³² Similarly, 'more positive' atmosphere was reported by our study participants which is similar to the study conducted in Pakistan.³⁷ Learning atmosphere could be enhanced by creating more comfortable, friendlier environment, as well as fostering more collaboration and interaction between teachers and students.³³

The student's social self-perception domain had lowest score, similar to the studies among physiotherapy and nursing students in India, Rwanda and Nepal.^{32,35,36} Majority of the graduates reported a weakness in the support system for students who are stressed out. It suggests that the institute needs to develop strategies which will help graduates to relieve stress and their social life could be enhanced. It is advisable to develop student support and counseling unit which could provide academic support, career guidance, and addresses the health problem and financial matters of the student.³³

Job satisfaction

The overall job satisfaction was moderate indicating that graduates' working conditions, salaries and fringe benefits need to be improved to increase their job satisfaction. The moderate level of job satisfaction observed in this study may be attributable to concerns regarding remuneration, limited opportunities for career advancement, and inadequate professional recognition. Similar findings have been reported among physiotherapy professionals in Bangladesh, where salary structure, promotion opportunities, and compensation were significant determinants of job satisfaction.³⁸ Furthermore, a national survey of the physiotherapy workforce in Nepal identified career development opportunities, workplace support, professional recognition, and remuneration as important

factors influencing workforce retention and satisfaction.²² These findings suggest that workforce-related challenges extend beyond individual institutions and require coordinated educational and policy-level interventions.

The findings of this study demonstrated a significant relationship between job satisfaction and income, pay and remuneration, promotion, supervision, fringe benefits, contingent rewards, coworkers, nature of work and communication within the organization. This is in line with previous studies conducted in physiotherapists in Peshawar (Pakistan) and Saudi Arabia.^{11,39} We found that 37.4% of graduates were satisfied with their job, which was comparable to physiotherapists working in Pakistan (29%), India (56.39%) and Nepal (59%).^{2,11,22} Working environment, good benefits, autonomy, rising demand, promotion and alternative employment opportunities were factors that contributed job satisfaction in Nepalese physiotherapists.²² The findings of our study are consistent with studies where attention is required to improve salaries, promotion, fringe benefits, contingent rewards, and operating conditions to increase job satisfaction in order to provide effective and quality services to patient.^{11,40,41} On the contrary, the results of this study reported that there were no significant association between level of job satisfaction with age, gender, marital status, working duration and working experience.^{42,43} Physiotherapy associations and regulatory bodies should influence policy makers to develop effective strategies to overcome factors of job dissatisfaction.^{15,22}

One limitation of our study is that certain factors, such as cultural influences, individual personalities, and learning preferences, which could potentially impact satisfaction within our institution, may not have been fully captured due to the structured nature of the questionnaire used to assess the educational environment and job satisfaction.

To address this limitation, we propose conducting a qualitative investigation. This approach will enable a deeper exploration of satisfaction concerning academics and job-related aspects, allowing us to identify and understand the various factors that contribute to satisfaction levels. Additional limitations include the use of convenience sampling, which may limit the representativeness of the sample, and the cross-sectional study design, which precludes causal inferences.

CONCLUSION

This study provides a comprehensive overview of the educational environment and job satisfaction among physiotherapy graduates in Nepal. Overall, graduates perceived the educational environment as more positive than negative, with satisfactory perceptions of learning, teaching, academic self-perception, atmosphere, and social self-perception, although none reached an excellent level. Institutional support systems emerged as the weakest aspect, highlighting the need for structured mentorship, counseling, and student support services to enhance student well-being, academic performance, and the transition into professional practice. Regarding employment, most graduates reported ambivalence toward their overall job satisfaction. While they expressed satisfaction with the nature of work, supervision, communication, and relationships with co-workers, dissatisfaction was evident with pay, promotion opportunities, fringe benefits, contingent rewards, and operating conditions. These findings emphasize the need for coordinated educational and workplace interventions to strengthen professional development, improve workforce retention, and support the long-term sustainability of the physiotherapy profession in Nepal.

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