JHWCR JOURNAL OF HEALTH, WELLNESS AND COMMUNITY RESEARCH 3007-0570

https://doi.org/10.61919/emw4sw45

Original Article

Cardiorespiratory Physiotherapy as a Career Choice – Perspective of Students

Komal[1], Sahar[2], Muskan Memon[3], Muhammad Talha[4], Joti Kumari[5], Abdur Rahman[6]

[1] Hyderabad Institute of Medical and Allied Sciences (Affiliated with LUMHS), Hyderabad, Pakistan
[2] Hyderabad Institute of Medical and Allied Sciences (Affiliated with LUMHS), Hyderabad, Pakistan
[3] Peoples University of Medical Health science for women Nawabshah (SBA)
[4] Al Biruni Institute of Medical and Health Sciences, Hyderabad, Pakistan
[5] National Institute of Physiotherapy and Rehabilitation Medicine (Affiliated with LUMHS), Hyderabad, Pakistan
[6] Jinnah Postgraduate Medical Centre, Karachi, Pakistan

***Corresponding author: Komal, dinanikomal55@gmail.com**

"Cite this Article" Received: 13 December 2025; **Accepted**: 26 March 2026; **Published**: 15 April 2026
Author Contributions: Concept: K; Design: S; Data Collection: MM; Analysis: MT; Drafting: JK **Ethical Approval**: Hyderabad Institute of Medical and Allied Sciences, Hyderabad, Pakistan**. Informed Consent**: Written informed consent was obtained from all participants; **Conflict of Interest**: The authors declare no conflict of interest. **Funding**: No external funding; **Data Availability**: Available from the corresponding author on reasonable request; **Acknowledgments**: N/A.

ABSTRACT

Background: Cardiorespiratory physiotherapy (CRP) is a vital specialty addressing the growing burden of cardiovascular and respiratory diseases; however, it remains less preferred among physiotherapy students compared with other specialties, potentially impacting future workforce distribution. Objective: To assess the perceptions of final-year Doctor of Physical Therapy (DPT) students regarding CRP as a career choice and to identify factors influencing their specialization preferences. Methods: A multicenter cross-sectional study was conducted among 178 final-year DPT students from LUMHS-affiliated institutes using a structured questionnaire adapted from a previously validated tool. Descriptive statistics summarized participant characteristics and preferences, while chi-square tests examined associations between CRP interest and influencing factors, with significance set at $p < 0.05$. Results: The mean age was 23.33 ± 1.07 years, with 83.1% females. Musculoskeletal physiotherapy was the most preferred specialty (n = 69), followed by neurology (n = 49), while only 25 students expressed extreme interest in CRP and 53 reported no interest. Job accessibility (48.3%) and potential salary (47.2%) were the most influential overall factors. Among students interested in CRP, intrinsic factors such as interest in the field (n = 71) and exposure (n = 70) predominated, whereas non-interested students emphasized job accessibility (n = 20) and salary (n = 13). No statistically significant associations were found between CRP interest and the examined factors ($p > 0.05$). Conclusion: CRP is less preferred among final-year DPT students, with career decisions driven primarily by economic considerations, while interest in CRP is linked to experiential and intrinsic factors; targeted educational strategies may enhance engagement in this specialty. Keywords: Cardiorespiratory physiotherapy; career choice; physiotherapy students; specialization; rehabilitation.

INTRODUCTION

Cardiorespiratory diseases remain a major cause of morbidity, disability, and mortality worldwide, with chronic respiratory diseases and cardiovascular diseases contributing substantially to the global burden of non-communicable disease (4,5,12). Chronic obstructive pulmonary disease is among the leading causes of death globally, while atherosclerotic cardiovascular disease continues to account for a large proportion of premature mortality and long-term functional limitation (5,12,13). In this context, rehabilitation has become an essential component of contemporary care, particularly for individuals with chronic respiratory and cardiovascular conditions, because it improves physical function, symptom control, quality of life, and long-term health behaviors (9,14,15). Physiotherapists play a central role in

the delivery of these services through exercise prescription, functional assessment, airway clearance techniques, patient education, and multidisciplinary rehabilitation across acute, subacute, outpatient, and community settings (7,8,11,16).

Cardiorespiratory physiotherapy is a recognized specialty within the physiotherapy profession that focuses on the prevention, assessment, treatment, and rehabilitation of individuals with acute and chronic disorders affecting the cardiovascular and respiratory systems (17,18). Its scope extends across intensive care, medical and surgical wards, pulmonary and cardiac rehabilitation programs, outpatient services, community practice, and health promotion initiatives (17,25,31). As health systems increasingly confront aging populations, multimorbidity, sedentary lifestyles, and the long-term consequences of chronic disease, the need for physiotherapists with expertise in cardiorespiratory care is expected to grow further (19,25,31). Despite this clinical relevance, cardiorespiratory physiotherapy has historically attracted less interest from students and practicing physiotherapists than musculoskeletal and, in some settings, neurological physiotherapy (18-20).

Career choice within physiotherapy is shaped by a complex interaction of educational exposure, perceived scope of practice, mentorship, professional identity, employability, salary expectations, research opportunities, and the quality of clinical learning experiences (17,18,20,21,27,29). Evidence from Canada showed that only a small proportion of final-year physiotherapy students expressed strong interest in cardiorespiratory physiotherapy, with job accessibility, salary expectations, and field experiences influencing this decision (18). Similar findings were reported among physiotherapists in Canada, where interest in cardiorespiratory practice, mentorship, access to resources, and professional training encouraged specialization, whereas narrow perceived scope and lack of interest discouraged career uptake (20). In Portugal, students and physiotherapists also demonstrated limited preference for cardiorespiratory physiotherapy, prompting calls for curricular restructuring, broader clinical exposure, stronger mentorship, and postgraduate development in the specialty (19). More recent evidence from Nigeria likewise found that only a minority of clinical physiotherapy students were strongly interested in cardiopulmonary physiotherapy, with research potential, employment accessibility, professional experiences, and perceived challenge influencing career decisions (21).

These observations are supported by broader literature emphasizing the importance of clinical placement experiences, educational environment, and professional representation in shaping specialty preferences. A prospective study from Spain found that cardiorespiratory clinical placements influenced students' perceptions of the specialty and its importance, suggesting that experiential learning may affect later career interest (27). Qualitative work has also shown that influential figures, learning and teaching practices, caregiving challenges, and external professional factors shape how students view future specialization in cardiorespiratory physiotherapy (29). At the systems level, studies from Jordan and Lebanon suggest that insufficient training opportunities, limited professional autonomy, and underdeveloped cardiopulmonary rehabilitation services may further constrain interest and advancement in this field (23,28). Collectively, these findings indicate that low interest in cardiorespiratory physiotherapy is not solely an issue of personal preference, but may also reflect modifiable educational and workforce factors.

Notwithstanding the growing international literature, evidence from Pakistan remains limited, particularly regarding undergraduate physiotherapy students' perceptions of cardiorespiratory physiotherapy as a career choice. This represents an important knowledge gap because student perceptions formed during undergraduate training may influence future specialization patterns, workforce distribution, and the capacity of rehabilitation services to meet cardiorespiratory health needs. In settings where specialty development is still evolving, understanding why students do or do not consider cardiorespiratory physiotherapy is necessary for curriculum planning, mentorship strategies, professional advocacy, and workforce development. The absence of local data from Hyderabad and

affiliated institutes of Liaquat University of Medical and Health Sciences further limits the ability of educators and institutions to design targeted interventions that could enhance interest in this specialty.

The present study was therefore undertaken to assess the perceptions of final-year Doctor of Physical Therapy students regarding cardiorespiratory physiotherapy as a career choice and to identify the factors associated with their interest or lack of interest in pursuing specialization in this area. It was hypothesized that final-year physiotherapy students would demonstrate comparatively lower interest in cardiorespiratory physiotherapy than in other major specialties, and that this pattern would be associated with perceptions related to job accessibility, salary prospects, exposure to the field, research potential, and influence from mentors or peers.

MATERIALS AND METHODS

A multicenter observational cross-sectional study was conducted to examine the perceptions of final-year Doctor of Physical Therapy students regarding cardiorespiratory physiotherapy as a career choice and the factors associated with their intended specialization. This design was selected because it permits the measurement of career preferences, perceived barriers, and perceived facilitators at a single point in training, which is appropriate for describing the distribution of views within a defined student population and for exploring associations between categorical perception variables and interest in cardiorespiratory physiotherapy (32). The study was carried out in Hyderabad, Sindh, Pakistan, across institutes affiliated with Liaquat University of Medical and Health Sciences, namely the Institute of Physiotherapy and Rehabilitation Sciences, LUMHS, Hyderabad Institute of Physical Medicine and Rehabilitation, National Institute of Physiotherapy and Rehabilitation Medicine, Al-Beruni Institute of Physiotherapy and Rehabilitation Sciences, Jijal Maau Institute of Physiotherapy and Rehabilitation Sciences, and Hyderabad Institute of Medical and Allied Sciences. Data collection was completed over a six-month period following approval of the research proposal.

The target population comprised final-year DPT students enrolled in the participating institutes. Students were eligible if they were in the final year of the DPT program, were willing to participate, and provided informed consent. Both male and female students were included. Students from the first, second, third, and fourth years of the DPT program were excluded, as were individuals who had already completed their physiotherapy degree, including house officers and those enrolled in postgraduate training such as MS or MPhil programs. A non-probability convenience sampling strategy was used. Students who were present during institutional visits were approached in person, informed about the purpose of the study, and invited to participate. To improve response capture and reduce nonresponse from absentees, the same questionnaire was also administered through Google Forms to eligible students who were not available during on-site data collection. Participation was voluntary, and no incentives were offered.

The sample size was determined using the Raosoft sample size calculation method with a 95% confidence level and a 5% margin of error, yielding a required sample of 178 participants. Initially, 212 students were approached, 182 returned questionnaires, and 178 responses were included in the final analysis after data screening and cleaning. The questionnaire used for data collection was based on the Student Physical Therapy Cardiorespiratory Questionnaire derived from the study by Marques et al. examining cardiorespiratory physiotherapy as a career choice among students and physiotherapists in Portugal (19). The instrument was selected because it directly addressed the domains central to the present study, including background characteristics, clinical placement exposure, career intentions, interest in cardiorespiratory physiotherapy specialization, opinions regarding the field, and general influences on specialty choice. The survey comprised six sections covering general data, clinical placement, physiotherapy career intentions, interest or lack of interest in cardiorespiratory physiotherapy specialization, opinions of cardiorespiratory physiotherapy, and general suggestions or reasons related to specialty choice. The primary outcome variable was interest in cardiorespiratory

physiotherapy as a career choice. Career intention across physiotherapy specialties was initially captured using ordinal response categories. For hypothesis testing, Likert-type responses were collapsed into analytically meaningful binary categories to satisfy the assumptions of chi-square analysis and to improve cell stability. Responses of "extremely interested," "interested," and "neutral" were grouped as interested in cardiorespiratory physiotherapy, whereas responses of "less interested" and "not interested" were grouped as not interested. A similar collapsing approach was applied to the factor items assessing influences on specialty choice, whereby positive and negative response categories were merged according to the analytical framework used for categorical comparison. Explanatory variables included perceived job accessibility, potential salary, exposure or experience in the field, interesting aspects of the field, research potential, influence from others, and other stated reasons. Additional descriptive variables included age, sex, institute, prior degree status, awareness of cardiorespiratory physiotherapy before entering the DPT program, prior awareness of intended specialization, post-qualification plans, and preferred timing of future specialization.

Several procedures were used to strengthen data quality and reduce bias. Recruitment was conducted across multiple affiliated institutes to improve representativeness within the study setting. The use of a standardized questionnaire reduced interviewer-related variability, and combining in-person and online administration helped limit avoidable nonresponse. Data were entered and screened before analysis. Incomplete questionnaires were reviewed during the cleaning process, and responses included in the final dataset were checked for consistency and completeness prior to statistical analysis. Because the study relied on self-reported perceptions and intentions, the possibility of response bias and social desirability bias was recognized; however, anonymous and voluntary participation was intended to reduce these effects. Selection bias inherent to convenience sampling was also minimized pragmatically by approaching all accessible eligible final-year students across the participating institutes rather than restricting recruitment to a single campus or classroom group.

Data were analyzed using the Statistical Package for the Social Sciences, version 24.0. Continuous variables were summarized using means and standard deviations, whereas categorical variables were reported as frequencies and percentages. Descriptive statistics were used to summarize participant characteristics, intended specialization preferences, and factors influencing specialty choice. Inferential analysis was performed using the chi-square test of independence to examine associations between interest in cardiorespiratory physiotherapy and the factor variables included in the hypothesis. For each tested association, the level of statistical significance was set at $p < 0.05$.

Exact p-values were generated from SPSS outputs and should be reported alongside each comparison table in the final manuscript. Because the analysis was exploratory and based on categorical survey data, emphasis was placed on transparent reporting of observed distributions and hypothesis-testing results. Data management procedures included coding of all variables prior to analysis, verification of category groupings before testing, and analysis of the final cleaned dataset of 178 participants to maintain internal consistency and reproducibility of results.

Ethical conduct was maintained throughout the study. Participation was based on informed consent, confidentiality was preserved during data collection and data handling, and responses were used exclusively for research purposes. The study procedures were implemented only after approval of the research proposal, and the study was conducted in accordance with accepted principles for research involving human participants.

RESULTS

A total of 178 final-year DPT students were included in the final analysis. The mean age of the participants was 23.33 ± 1.07 years. Most respondents were female (148, 83.1%), while 30 (16.9%) were male. Students were recruited from six LUMHS-affiliated institutes, with the largest proportion from the Institute of Physiotherapy and Rehabilitation Sciences, LUMHS (38, 21.3%), followed by Hyderabad

Institute of Physical Medicine and Rehabilitation (33, 18.5%), Jijal Maau Institute of Physiotherapy and Rehabilitation Sciences (29, 16.3%), Al-Beruni Institute of Physiotherapy and Rehabilitation Sciences (27, 15.2%)

Table 1. Sociodemographic and academic characteristics of participants (n = 178)

Variable	Category	n	%
Age (years)	Mean ± SD	23.33 ± 1.07	—
Gender	Female	148	83.1
	Male	30	16.9
Prior degree	Yes	18	10.1
	No	160	89.9
Awareness of CRP before DPT	Yes	97	54.4
	No	81	45.5
Knew specialization before DPT	Yes	35	19.6
	No	139	78.1
Plan to specialize	Yes	131	73.5
	No	6	3.4
	Maybe	41	23.0
Preferred timing	Immediately	42	23.8
	After 2–5 years	118	66.2
	After ≥5 years	12	6.7

Table 2. Specialty preference (highest level of interest reported)

Specialty	Extremely Interested (n)	Not Interested (n)
Musculoskeletal	69	—
Neurology	49	—
Cardiorespiratory	25	53

Table 3. Factors influencing specialization choice (overall sample)

Factor	n	%
Job accessibility	86	48.3
Potential salary	84	47.2
Exposure/experience	65	36.5
Interesting aspects	56	31.5
Influence from others	32	18.0

Research potential	27	15.2
Other reasons	2	1.1

Table 4. Factors influencing students interested in CRP

Factor	n
Interesting aspects	71
Exposure/experience	70
Job accessibility	62
Potential salary	55

Table 5. Factors influencing students not interested in CRP

Factor	n
Job accessibility	20
Potential salary	13

Table 6. General influences on not choosing CRP

Factor	n	%
Own clinical experience	74	41.6
CRP clinical supervisor	25	14.0
CRP lecturer	24	13.5

Hyderabad Institute of Medical and Allied Sciences (26, 14.6%), and National Institute of Physiotherapy and Rehabilitation Medicine (25, 14.0%). Only 18 students (10.1%) had a prior degree before enrolling in physiotherapy, whereas 160 (89.9%) entered without any previous degree. Awareness of cardiorespiratory physiotherapy before starting the DPT program was reported by 97 students (54.4%), while 81 (45.5%) were not aware of the specialty. Only 35 students (19.6%) reported knowing their intended area of specialization before starting the degree. Most students indicated that they would consider specialization after registration as physiotherapists (131, 73.5%), and the most frequently preferred timing for specialization was after 2-5 years of experience (118, 66.2%)

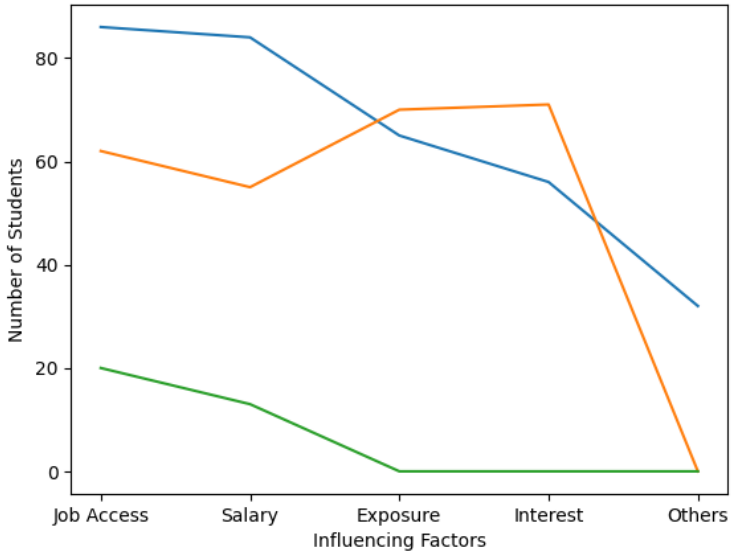

Figure 1 Comparative Pattern of Influencing Factors Across Career Preference Groups

The figure demonstrates a distinct divergence in how influencing factors operate across overall career choice, CRP interest, and CRP non-interest groups. In the overall cohort, job accessibility (n = 86) and salary (n = 84) dominate as primary drivers, showing a steep initial gradient that declines toward intrinsic factors such as interest (n = 56) and social influence (n = 32). In contrast, among students interested in cardiorespiratory physiotherapy, intrinsic and experiential variables surpass extrinsic ones, with "interesting aspects of the field" (n = 71) and "exposure/experience" (n = 70) exceeding job accessibility (n = 62) and salary (n = 55), indicating a reversal of the dominant decision-making gradient. Conversely, the non-interest group exhibits a sharply truncated profile, with only job accessibility (n = 20) and salary (n = 13) remaining relevant, and near-zero contribution from experiential or intrinsic factors. This pattern highlights a clear interaction effect: students inclined toward CRP are driven by cognitive and experiential engagement, whereas those disinclined are influenced almost exclusively by perceived economic and employment constraints, suggesting a bifurcation in decision pathways rather than a linear preference continuum.

DISCUSSION

The present study evaluated the perceptions of final-year Doctor of Physical Therapy students regarding cardiorespiratory physiotherapy as a career choice and explored the factors influencing their specialization preferences. The findings demonstrated that cardiorespiratory physiotherapy was comparatively less preferred than musculoskeletal and neurological specialties, with only 25 students expressing extreme interest and 53 reporting no interest at all. This pattern is consistent with international literature, which has repeatedly shown that cardiorespiratory physiotherapy attracts a smaller proportion of students compared with other specialties, despite its clinical importance (18–21). The relatively low level of interest observed in this study reinforces concerns regarding workforce distribution in physiotherapy, particularly in areas addressing high-burden non-communicable diseases such as cardiovascular and respiratory conditions.

A key finding of this study was the dominance of pragmatic career considerations, particularly job accessibility (48.3%) and potential salary (47.2%), in influencing overall specialization decisions. These findings align with previous research from Canada and Nigeria, where employment prospects and financial incentives were reported as major determinants of career choice among physiotherapy students (18,21). However, a more nuanced pattern emerged when examining students interested in cardiorespiratory physiotherapy. Within this subgroup, intrinsic and experiential factors—specifically interesting aspects of the field (n = 71) and exposure or clinical experience (n = 70)—were more prominent than extrinsic considerations. This suggests that students who develop an interest in CRP may

do so through meaningful engagement with the subject rather than through perceived economic benefits, supporting earlier evidence emphasizing the role of clinical exposure and mentorship in shaping specialty preference (20,27,29).

In contrast, students who were not interested in cardiorespiratory physiotherapy primarily cited job accessibility (n = 20) and potential salary (n = 13) as discouraging factors. This finding reflects a perception gap in the field, where CRP may be viewed as offering limited employment opportunities or lower financial returns compared with other specialties. Similar concerns have been reported in prior studies, where limited awareness of career pathways and perceived lack of professional growth opportunities contributed to reduced interest in CRP (18,20). These findings suggest that negative perceptions of the job market, whether accurate or not, may act as a barrier to entry into this specialty.

Another important observation was the influence of clinical and educational experiences on students' decisions. Own clinical experience was the most frequently reported factor discouraging students from choosing CRP (41.6%), followed by the influence of clinical supervisors and lecturers. This is particularly significant because it indicates that exposure to CRP during training does not uniformly translate into increased interest. While some studies have shown that clinical placements enhance appreciation and interest in the specialty (27), others have highlighted that negative or limited experiences can have the opposite effect (18). The findings of the present study support the latter perspective, suggesting that the quality, structure, and depth of clinical exposure in CRP may be critical determinants of student perception.

Despite the observed descriptive trends, the inferential analysis did not identify statistically significant associations between interest in cardiorespiratory physiotherapy and the examined influencing factors, as all p-values were greater than 0.05. This indicates that while certain factors appeared more frequently in association with interest or non-interest, these relationships were not statistically robust within the sample. Similar findings have been reported in exploratory studies where multiple factors influence career decisions in a complex and interdependent manner, making it difficult to isolate the effect of individual variables (22,29). The absence of statistical significance may also be attributed to the sample size, the use of categorical grouping of Likert-scale data, and the potential loss of variability during data transformation.

From a broader perspective, the findings highlight a disconnect between the clinical importance of cardiorespiratory physiotherapy and its perceived attractiveness as a career choice. Given the increasing global burden of cardiovascular and respiratory diseases and the expanding role of rehabilitation in managing these conditions, the relatively low interest in CRP represents a potential gap in future healthcare capacity (12,25,31). Addressing this issue requires targeted educational and institutional strategies. These may include enhancing clinical exposure through structured and high-quality placements, integrating CRP more effectively into the curriculum, providing mentorship from experienced practitioners, and increasing awareness of career opportunities and professional growth pathways in this field. Previous studies have similarly recommended curriculum restructuring, improved mentorship, and expanded postgraduate opportunities to increase student engagement with CRP (19,20).

The strengths of this study include its multicenter design, inclusion of a relatively large sample of final-year students, and use of a previously validated questionnaire, which enhances the credibility of the findings. However, several limitations must be considered. The use of non-probability convenience sampling may limit the generalizability of the results. The study was confined to institutes affiliated with LUMHS in Hyderabad, which may not reflect perceptions in other regions of Pakistan. The reliance on self-reported data introduces the possibility of response bias. Additionally, the transformation of Likert-scale responses into binary categories may have reduced the sensitivity of the analysis and contributed to the lack of statistically significant associations. These limitations highlight the need for larger,

multicenter studies with more robust analytical approaches, including multivariable modeling, to better understand the determinants of specialization choice in physiotherapy.(32).

CONCLUSION

This study found that cardiorespiratory physiotherapy was less preferred as a career choice among final-year DPT students compared with musculoskeletal and neurological specialties, despite its clinical importance. Career decisions were primarily influenced by job accessibility and salary at the overall level, whereas interest in CRP was more strongly associated with exposure to the field and its intrinsic appeal. Students who did not consider CRP were largely influenced by perceived limitations in employment opportunities and financial prospects. However, no statistically significant associations were identified between CRP interest and the examined factors. These findings suggest that improving clinical exposure, mentorship, and awareness of career opportunities may be essential to enhance interest in cardiorespiratory physiotherapy and support future workforce development in this critical area of healthcare.

REFERENCES

1. Wineski LE. Snell's clinical anatomy by regions. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2018.
2. Hall JE, Guyton AC. Guyton and Hall textbook of medical physiology. 12th ed. Philadelphia: Saunders Elsevier; 2011.
3. Barrett KE, Brooks HL, Boitano S, Barman SM. Ganong's review of medical physiology. 23rd ed. New York: McGraw-Hill; 2010.
4. Penman ID, Ralston SH, Strachan MWJ, Hobson R. Davidson's principles and practice of medicine. 24th ed. Elsevier; 2022.
5. Ferkol T, Schraufnagel D. The global burden of respiratory disease. Ann Am Thorac Soc. 2014;11(3):404–6.
6. Porter SB. Tidy's physiotherapy. 15th ed. Elsevier; 2013.
7. O'Sullivan SB, Schmitz TJ, Fulk GD. Physical rehabilitation. 6th ed. Philadelphia: F.A. Davis; 2014.
8. Hillegass E. Essentials of cardiopulmonary physical therapy. 5th ed. Elsevier; 2022.
9. Rochester CL, Holland AE, Alison JA, Carlin B, Bauldoff G, Bhatt SP, et al. Pulmonary rehabilitation for adults with chronic respiratory disease. Am J Respir Crit Care Med. 2023;208(4):E7–26.
10. Maki N, Takahashi H, Nakata T, Wakayama S, Hasegawa D, Sakamoto H, et al. The effect of respiratory rehabilitation for the frail elderly. J Gen Fam Med. 2016;17(4):289–98.
11. Main E, Denehy L. Cardiorespiratory physiotherapy: adults and paediatrics. 10th ed. Elsevier; 2016.
12. Magnussen C, Ojeda FM, Leong DP, Alegre-Diaz J, Amouyel P, Aviles-Santa L, et al. Global effect of modifiable risk factors on cardiovascular disease. N Engl J Med. 2023;389(14):1273–85.
13. Zheng WC, Chan W, Dart A, Shaw JA. Emerging treatments for atherosclerotic cardiovascular disease. Eur Heart J Cardiovasc Pharmacother. 2024;10(1):53–67.
14. Oz A, Tsoumas I, Lampropoulos K, Xanthos T, Karpettas N, Papadopoulos D. Cardiac rehabilitation after TAVI. Curr Probl Cardiol. 2023;48(3).
15. Taylor RS, Dalal HM, Zwisler AD. Cardiac rehabilitation for heart failure. Eur Heart J. 2023;44(17):1511–8.

16. McCarthy SR. Physiotherapy for respiratory and cardiac problems. Spinal Cord. 1999;37(4):310.

17. Reeve J, Skinner M, Lee A, Wilson L, Alison JA. Factors influencing physiotherapy students' opinions of CRP. Physiother Theory Pract. 2012;28(5):391–401.

18. Janaudis-Ferreira T, Araujo T, Romano JM, Camp PG, Hall M, Mathur S, et al. Perspectives of Canadian physiotherapy students on CRP. Physiother Can. 2016;68(3):282–90.

19. Marques A, Oliveira A, Machado A, Jácome C, Cruz J, Pinho T, et al. CRP as a career choice. Physiother Theory Pract. 2019;35(11):1094–116.

20. Hussey L, Sredic D, Bucci C, Barrett IR, McLeod R, Janaudis-Ferreira T, et al. Factors influencing CRP career choice. Physiother Can. 2017;69(3):226–32.

21. Damilola A, Binuyo O, Onigbinde O, Olaniyi A. Cardiopulmonary physiotherapy as a specialty. J Niger Soc Physiother. 2023.

22. Shultis LM. Factors influencing undergraduate students to enter respiratory care. Northcentral University; 2023.

23. Farah R, Groot W, Pavlova M. Cardiopulmonary rehabilitation among physiotherapists in Lebanon. Bull Fac Phys Ther. 2022;27(1).

24. Quach S, Veitch A, Zaccagnini M, West A, Nonoyama ML. Underrepresentation of respiratory therapists. Respir Care. 2022;67(12):1609–32.

25. Rodrigues A, Castro GM, Jácome C, Langer D, Parry SM, Burtin C. Developments in respiratory physiotherapy. Eur Respir Rev. 2020;29(158).

26. Armaghan R, Geesey B, Juby J, Amador-Castaneda J, Bollinger A, Roberts KJ, et al. Respiratory therapy practice in Pennsylvania. Respir Care. 2020;65(7):972–6.

27. Sánchez IT, López LL, Torres JR, Román EP, Santiago MG, Valenza MC. Influence of CRP placements on student interest. Healthcare. 2019;7(4):148.

28. Okasheh R, Al-Yahya E, Al-Khlaifat L, Almasri N, Muhaidat J, Qutishat D. Advancing CRP practice in Jordan. Rehabil Res Pract. 2019;2019.

29. Thomas HA, Bendall AL. Experiences influencing CRP career choice. Physiotherapy. 2019;105:e115–6.

30. Gupta L, Gupta H. Physiotherapy for respiratory conditions. Adv Nurs Patient Care Int J. 2018;1(1).

31. Denehy L, Granger CL, El-Ansary D, Parry SM. Advances in CRP. Expert Rev Respir Med. 2018;12(3):203–15.

32. Smith SG, Endee LM, Benz Scott LA, Linden PL. Future of respiratory care. Respir Care. 2017;62(3):279–87.